AIR CONDITIONING HEATING & REFRIGERATION NEWS
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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week
Promotion Note
The Silly Season Is on Us
Air Conditioned Cows
Bag-em Bill Consley
More News About Thermoelectric Progress
More Newspaper Boners

Stories of the Week

St. Peter stopped an advertising man at the Pearly Gates.

"Our quota from Madison Ave. is full for the time being," St. Peter stated. "You'll have to wait in Purgatory for awhile."

"Gimme 24 hours up here," promised the adman, "and I'll persuade some of my brethren to leave."

This seemed like a sporting proposition to good sport St. Peter. To his amazement, advertising men soon began streaming out through the Pearly Gates. It was a stampede!

"How did you do it?" he asked the propositioner.

"Simple. I started a rumor that the devil was looking for a new advertising agency. Uh, er, incidentally . . . would you excuse me for awhile? Never can tell about a rumor like that."

To moppets in her Sunday School class, teacher prepared to tell the story of Samson.

"Children," she began, "today's lesson is about the strongest man in history. His name begins with S. Do any of you happen to know who this strong man might be?"

"Superman!" they chorused.

Promotion Note

Radio station WGAL of Lancaster, Pa., is giving mink golf tees to clients and prospects.

So you think you have everything, eh?

The Silly Season Is on Us

In Philadelphia a car-washing emporium advertises:

"Foreign cars washed with imported water."

And a New York wig-maker is offering "mink-lined toupees for bald Alaskans."

Air Conditioned Cows

Dairy scientists at the University of Missouri declare that cows produce 35% less milk, when the outside temperature is 95°, then when Mrs. Holstein and her sisters enjoy a 75° climate in their stalls.

(Concluded on Page 5, Col. 1)

NHAW There Nov. 29—Dec. 2

Politicos May Enliven NWAHACA Convention In St. Louis Dec. 2-4

CLEVELAND—With the chairmen of the two major political parties on the program, the air may get downright hot at the 46th annual convention of the National Warm Air Heating & Air Conditioning Association to be held Dec. 2-4 in the Chase-Park Plaza hotels in St. Louis.

In an election preview for 1960, Democratic Chairman Paul M. Butler will address the Dec. 3 luncheon and Republican Chairman Thruston B. Morton will take the podium at the Dec. 4 luncheon.

They are expected to provide those attending with a provocative insight into the campaign plans of both parties during the coming year.

Equally provocative will be a discussion of electric heating as it affects the warm air heating contractor and a documentary report on the progress of NWAHACA's "Silver Shield" program to upgrade heating and air conditioning installations.

All talks throughout the convention will be followed immediately by discussion from the floor.

Just prior to the convention, the Northamerican Heating & Airconditioning Wholesalers Association will meet Nov. 29 to Dec. 2 in the Chase hotel. High-

(Concluded on Page 17, Col. 1)

ASHRAE Readies Program for Dallas Meeting Feb. 1-4

NEW YORK CITY—Program for the semiannual meeting of the American Society of Heating, Refrigerating & Air-Conditioning Engineers, to be held in Dallas, Feb. 1-4, features a series of 10 sessions of which five will be technical and five will be of the conference type.

The meeting will coincide with the 2nd Southwest Heating & Air Conditioning Exposition to be staged under the auspices of ASHRAE.

Headquarters for the society meeting and for registration

(Concluded on Page 17, Col. 4)

Steel Workers' Return Sparks Optimism

But Shortages Still Close Some Plants

DETROIT — Recent reports indicate that the steel workers' return to the mills has brightened the production outlook somewhat in the air conditioning and refrigeration industry—at least temporarily.

At Airtemp Div. of Chrysler Corp., President Paul Augenstein said that although no shutdown or keep-open orders had been issued, it's possible the division "might be able to continue with a few spot interruptions."

Earlier, Augenstein had reported that steel shortages might force Airtemp to close down its Dayton plant at the end of November.

And two General Motors divisions in Rochester, N. Y.—Delco Appliance and Rochester Products—began to recall 2,000 workers.

However, William Bynum, president of Carrier Corp., said that because of a lack of steel, Carrier will have to halt production at least four weeks during the rest of this year.

Bynum said the company expected to be closed during the weeks beginning Nov. 23, Nov. 30, Dec. 14, and Dec. 28. He added that Carrier will continue full production during the week of Dec. 7 and hopes to remain open during the week of Dec. 21.

In the announcement to employes, Bynum said the proposed work schedule for the remainder of 1959 is subject to revision and the firm will try to improve it. But, "conditions beyond our control may force additional periods of work suspension. And we are not sure that normal operations can be sustained full time even after Jan. 4."

Bynum also advised employes that arrangements have been made with a bank to permit them to borrow, interest-free, up to $40 during any layoff week.

(Concluded on Back Page, Col. 2)

BEHIND PAGE ONE . . .

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Installation & Service Practices In Commercial Refrigeration 13

Admiral Bows '60 Room Unit Line

CHICAGO — Admiral Corp. has announced that its 1960 room air conditioners are produced in four different series ranging from 1 to 2 hp. and include the compact "Ruler" series which, the company claims, "can be installed and operating in less than a minute."

Admiral also announced that use of a new high density, expandable insulation in 1960 refrigerators and freezers has reduced the thickness of cabinet walls by ¾ in. on each side and increased storage capacity approximately 15% in the same size exterior cabinet as last year's models.

Another highlight is a new power plant for the "Dual Temp" refrigerators and deluxe upright freezers. This is said to operate more efficiently, economically, and quietly than heretofore.

(Concluded on Back Page, Col. 1)

Typhoon 'Shooting for the Moon' with 138 Packaged Products In 1960 Line

BROOKLYN — Broadness of the Typhoon lines for the coming year was stressed when Typhoon Air Conditioning and Typhoon Heat Pump, divisions of Hupp Corp., presented their 1960 sales program to their dealers at a conference in Washington, D. C.

The lines include 138 products, according to Don Petrone, president of Typhoon Air Conditioning and sales vice president of Hupp.

"We make virtually every type of packaged unit on the market," he said, "and a wide range of sizes in each type."

The 1960 sales program was presented with sound effects echoing the "whoosh" and rising crescendo of an eight-stage moon rocket. Speaking of the program, Petrone said:

"Judging from the reaction of more than 200 dealers at the sales conference, our theme of 'shooting for the moon' was appropriate. We believe the program will result in new highs in every aspect of our operations—a better dealer organization, broader market coverage, increased sales, and better profit margins."

To emphasize the theme at the conference, Typhoon borrowed a full-scale model of an Army missile, built a mock-up of a moon rocket on the speaker's platform, and introduced each stage of an eight-stage sales program with rocket sound effects.

According to Petrone, the eight stages of Typhoon's program are all designed to improve dealer operations. And stage one, he said, was the formulation of all company policies to conform to dealers' methods of doing business.

"Our first goal," Petrone said, "is to help dealers build successful, profitable businesses. Real progress must be based on sound profits for every segment of the industry and manufacturers must take the lead in mak-

(Concluded on Page 4, Col. 1)

Citizens Committee Considers Cooling County Clink

LOS ANGELES—Should refrigerated air conditioning be provided in the projected new $24 million county jail?

If so, should it be for both administrative personnel and inmates or just for employes?

These questions were debated recently at the initial session of the Citizens Advisory Committee on County Construction (CACCC). The committee was appointed by the Board of Supervisors to study technical aspects of all county construc-

(Concluded on Back Page, Col. 4)

NEMA Puts Room Cooler Section In New Consumer Products Div.

ATLANTIC CITY, N. J. — Public relations programs are planned at all levels by appliance sections of the National Electrical Manufacturers Association as one feature of NEMA's 1960 "reorganization plan" which includes a new Consumer Products Div.

This was announced here by Joseph F. Miller, NEMA managing director, in connection with the association's thirty-third annual meeting.

The association's reorganization plan cuts across all NEMA product sections.

In the appliance field it will mean the concentration in one division of manufacturers of such electric products as room air conditioners, refrigerators, freezers, dehumidifiers, ranges, water heaters, dishwashers, electric housewares, and fans.

(Concluded on Page 4, Col. 5)

Arkla Promotes Russell L. Brown

LITTLE ROCK, Ark.—Russell Lloyd Brown has been promoted to manager, Heating and Air Conditioning Products, of Arkla Air Conditioning Corp., according to W. G. Wepfer, general sales manager.

In the newly-created position, Brown will serve as manager of the large tonnage division and as a coordinator of sales for the residential-small commercial absorption-type air conditioners and Humphrey Div. heating products.

Brown has been with Arkla since it was founded two years ago, and has served as chief application engineer, training director, and assistant to the sales manager. Arkla is a wholly-owned subsidiary of Arkansas Louisiana Gas Co.

Judge Bibb Cites 'Punky Air'; Gets His Conditioner Hooked Up for Winter Use

KNOXVILLE, Tenn. — An irate Criminal Judge J. Fred Bibb, indicating he thought it was a "crime" that his air conditioning had been turned off for the winter, threatened recently to adjourn his court until "punky air" was cleared out of the hot courtroom. He got his air conditioning back — in a hurry.

A short time ago, the county put all Court House air conditioners on one water line to a tank atop the Criminal Court building. Because the water was not recirculated as it is now, the water bill had been running $800 monthly. The tank had been drained over a weekend so it wouldn't freeze.

Said Judge Bibb: "We have no cross-ventilation in our courtroom and we use the air conditioning the year around."

Apologizing to the spectators, the judge asserted that he wasn't going to "sit here in this foul air and try to think." He said he'd been trying for two months to get the County Commission to provide his air conditioner with a separate water line for winter use.

Called to the courtroom, the commission purchasing agent was asked by the judge to sniff the "punky air." Judge Bibb then commented: "I can't get the commissioners for contempt or I would. All I can do is cuss."

The agent said he'd see what he could do. Before long, a man put in the water line.

Distributor Sales Up 10% for First Nine Mos.

WASHINGTON, D. C. — The Census Bureau reported that sales of air conditioning and commercial refrigeration equipment distributors in the first nine months of 1959 were up an average of 10% compared with the corresponding period of last year.

The distributors' sales in September, the bureau indicated, gained 6% compared with the previous September but were 12% under the August level. Their inventories at the end of September were 6% higher than a year earlier but down 4% from a month earlier.

First-nine-month sales of plumbing and heating equipment and supplies distributors were reported as 16% higher than in the like year-ago period.

Airtemp Names Gonzalez, Regan

DAYTON — Promotion of R. A. (Ralph) Gonzalez to the newly-created position of manager of industrial sales in the Packaged Heating and Cooling Dept. of Chrysler Airtemp has been announced by Warren Fitch, marketing manager of the department.

R. A. Gonzalez

W. L. Regan

Fitch also announced the promotion of William L. Regan to manager of distribution, Packaged Heating and Cooling.

One of the air conditioning industry's best known personalities, Gonzalez had been application engineering manager for Chrysler Airtemp's National Service Dept. He has been with Airtemp since 1936.

Regan has been southeast regional manager for Chrysler Airtemp, headquartering in Atlanta. He joined Chrysler in 1953.

Reporting to Regan will be Harry P. Young, eastern distribution manager, headquartering in Ridgefield, N. J., and George B. Young, western distribution manager, working out of Los Angeles.

Walton President, Wm. Feldermann, Dies

SOUTH ORANGE, N. J. — William Feldermann, president, chairman of the board, and founder of Walton Laboratories, Inc., and president and chairman of the board of Bruce Metal Products, Inc., died here Nov. 13.

Feldermann was a pioneer in the development of humidifiers. His activities included studies of the effects of moisture upon the human body and its environment.

He is survived by his wife, Florence; two daughters; his son, John, residing in Livingston, N. J.; and nine grandchildren.

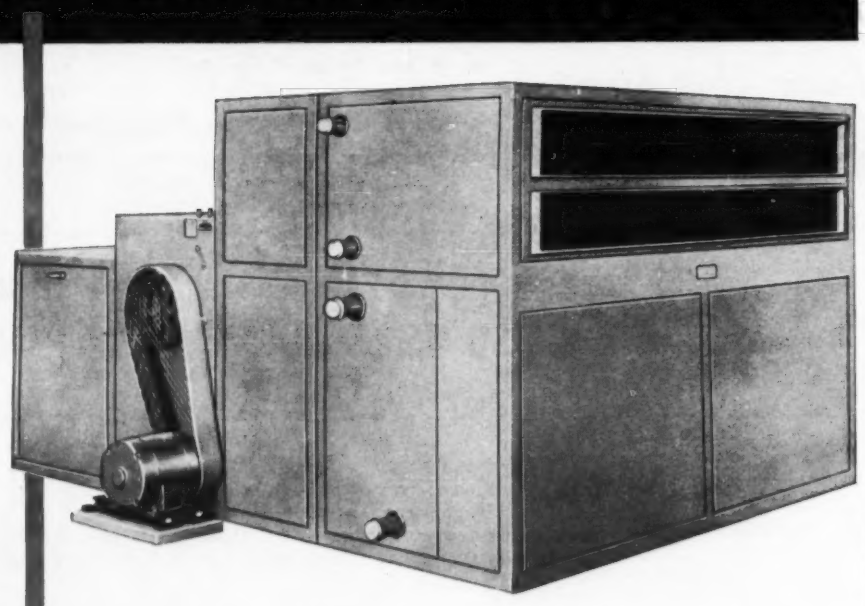
H. W. Prentis, Jr. Dies

LANCASTER, Pa. — Henning W. Prentis, Jr., 75, chairman of the board of Armstrong Cork Co. since 1950 and a nationally-known industrial and civic leader, died here recently of a cerebral thrombosis. He joined the company in 1907.

RUGGED! COMPACT! QUIET!
New Kennard Nelson dual-duct units!

KENNARD

herman nelson

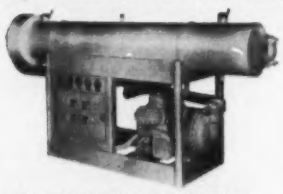


New compact Kennard/Nelson dual-duct air conditioning units—available in both Low and High Pressure models—insure lower engineering and installation costs with these special features:

- Quiet fan operation
- Heavy-duty frame and panel construction
- Rigid fan-bearing-shaft assembly—minimum vibration
- Optional horizontal or vertical discharge
- Static pressures up to 8"

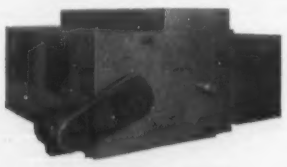
Write for all the facts on the complete Kennard/Nelson Dual-Duct line: Engineered Air Systems Division, American Air Filter Company, Inc., 109 Central Ave., Louisville, Ky.

OTHER AIR CONDITIONING, HEATING, VENTILATING PRODUCTS



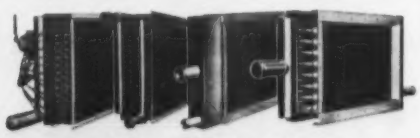
PACKAGED LIQUID CHILLERS

Kennard/Nelson's shell-and-coil chiller puts this Packaged Liquid Chiller in a class by itself in the 20 HP - 150 HP range. Exclusive internally-finned tubing, built as an integral part of each tube, overcomes costly heat transfer problems on the refrigerant side.



AIR HANDLING UNITS

The Kennard/Nelson line includes 14 sizes of horizontal and vertical air conditioning units with CFM ranging from 400-36,000. Heating and ventilating units with 400-36,000 CFM capacities for steam or hot water systems.



COOLING-HEATING COILS

Controlled K/N quality is featured in a complete line of cooling and heating coils including direct expansion, chilled water, steam (non-freeze and standard), and hot water. K/N offers a complete line of cooling towers, evaporative condensers, sprayed and finned coils for heating and cooling service.

AAF American Air Filter
BETTER AIR IS OUR BUSINESS

Kennard/Nelson are famous brands among AAF products

Trying to find the right man for a hard-to-fill vacancy—the NEWS' Classified Ads are read by your man.

Place your ad today!

Study Cites Trouble Spots

Contractor Failures Down, Survey By Dun & Bradstreet Indicates

NEW YORK CITY — During the first nine months of 1959, 261 air conditioning, plumbing, and heating contractors failed with liabilities of $8,505,000, according to a recent study of the Business Economics Dept. of Dun & Bradstreet, Inc.

Percentagewise, this represented a decrease of 7% in numbers as compared to the 280 failures reported for the line during the corresponding period of last year and a decrease of 6% in liabilities compared to the $9,092,000 reported for January to September, 1958.

"Looking at 1958's total tallies for the industry, the outlook appears quite bright for 1959," the agency said.

"During 1958, there were 357 failures among air conditioning, plumbing, and heating contractors—the highest annual number of failures reported since failure statistics were first prepared on the industry in 1934. Resultant liabilities from these 357 failures totaled $11,116,000—third only to 1956's $12,997,000 and 1957's $12,164,000."

The Dun & Bradstreet's failure study of the 357 failures in the line during 1958 by geographic location showed that 25.5% of these failures occurred in the Middle Atlantic states, 21.9% in the East North Central states, and 14.9% in the Pacific states. The lowest casualties for the line in 1958—2.8%—occurred in the Mountain states.

Also included in Dun & Bradstreet's failure study of the line was an analysis of the number of years each failing concern had been in business. This study would seem to indicate that if an air conditioning, plumbing, and heating contractor is going to fail, he will probably fail in his first five years of operation.

The agency's report shows that 48% of the failures in the line in 1958 involved those who had started operations between 1954 and 1958. In this respect, the industry was much like contractors in general, it was stated. Of all contracting failures last year, 51.6% befell contractors opened in the same five-year period.

Dun & Bradstreet's failure figures include only air conditioning, plumbing, and heating contractors who failed with losses to creditors. Voluntary retirements from business, transfers of ownership, and those who closed their doors owing no bills are not included in these tabulations.

Here is the study of the causes of failure that Dun & Bradstreet did on the 357 contractors of air conditioning, plumbing and heating who failed in 1958.

Disaster—Of the total 357 failures, only four or 1.1% were attributed to disaster. These four failures were caused by employes' fraud (one failure), strike (one failure), and two for other reasons belonging under the classification of disaster.

Fraud and Neglect—During 1958, only seven of the failures in the line were resultant from fraud or fraudulent intent on the part of the principal or principals of the business. This was reflected by irregular disposal of assets (four failures), false financial statement (two failures), and one for other reasons.

Neglect was reported as a cause of failure in 12 businesses. The apparent causes of neglect in eight cases were poor health, two because of bad habits, and two because of marital difficulties.

Inexperience—The bulk of the failures, 92.7%—or more than nine out of ten—were management failures. Here's how this category was broken down.

	Number	%
Incompetence	149	41.7
Unbalanced Experience	89	24.9
Lack of Managerial Experience	68	19.1
Lack of Experience in the Line	25	7.0
	331	92.7

This group was further analyzed by the surface causes, or the reasons given as excuses, for the failures.

	Number	%
Inadequate Sales	150	42.0
Receivables Difficulties	106	29.7
Competitive Weakness	92	25.8
Heavy Operating Expenses	28	7.8
Inventory Difficulties	10	2.8
Excessive Fixed Assets	10	2.8
Poor Location	3	0.8
Other	25	7.0

Because some failures are attributed to a combination of surface causes, these figures add up to somewhat more than the 92.7% of the failures analyzed.

Copeland Names Comstock, King

SIDNEY, Ohio—Russell E. Comstock has been named chief engineer, new products, at Copeland Refrigeration Corp.

R. E. Comstock

Comstock joined Copeland earlier this year as manager of the southern central sales district.

H. S. King

He is succeeded by Harold S. King, who has recently joined Copeland.

A graduate of Clarkston College of Technology, Potsdam, N. Y., Comstock was formerly associated with Heat-X, Brewster, N. Y., and Brunner Mfg. Co., Gainesville, Ga. in product development, application, and sales activities.

For the past six years, King was sales engineer for Penn Controls, in charge of the southeastern sales region.

R. K. Miller Becomes Siegler Vice President

PASADENA, Calif. — Robert K. Miller, president of the Holly-General Div. of The Siegler Corp., has been elected a vice president of the parent corportion, it was announced by John G. Brooks, Siegler president.

Miller has served since September, 1958, as president of Holly-General which manufactures heating and air conditioning equipment. He will continue to head the division.

COPPER TUBE

creates confidence in YOU!

"COPPER TUBE is in the 'specs' of all quality jobs"

says the consulting engineer

What other material has copper tube's *combination* of valuable properties? What other material resists corrosion so well... can be joined so easily... can take years of tough punishment... transfers heat so efficiently... is suitable for such a variety of refrigerants and lends itself to so many types of installation and fabrication processes? *There is none!*

In addition to all the performance features of copper tube... air conditioning and refrigeration men consistently find the overall cost of using copper tube to be lower than less durable metals. This is because copper tube is so much easier to work with... in the plant or on the job.

If you have a choice... always make it copper. It builds confidence in the job you do, the product you sell and in you.

Look for "Made in U.S.A." on all copper tube. The manufacturer's brand name and this symbol also are used by many U.S. copper and brass mills to designate tube products that meet the exacting standards of American industry.

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

Specify Copper Tube for Air Conditioning and Refrigeration

COPPER & BRASS RESEARCH ASSOCIATION • 420 LEXINGTON AVE., NEW YORK 17, N. Y.

Typhoon Features Broad Line for '60--

(Concluded from Page 1, Col. 4)

ing a dealer's operation profitable. Although Typhoon's prices are competitive, our policies and products are designed to put business on a more rational basis than cut-throat pricing."

Broad Product Line

Stage 2 is the broad product line. Units in the 1960 line include the following:

Water-cooled self-contained units in 13 sizes ranging from 3 to 75 tons.

Water-cooled remote condensing units and air-handling fan-coil units in the same sizes excepting a 75-ton unit, plus horizontal air-handling fan-coil units in 3, 5, 7½, 10 and 15-ton capacities.

Ceiling mounted water-cooled units of 5 and 7½ tons' capacity.

Air-cooled self-contained units of 2 to 20 tons' capacity including horizontal units of 2, 3, and 5-ton capacities and air-cooled remote condensing units of the same sizes.

Roof-mounted, self-contained combination cooling-heating units of 7½ and 10-ton capacities.

Air-cooled condensers in cabinet models in 3 to 15-ton sizes and vertical and horizontal remote types in sizes ranging from 2 to 75 tons.

Self-contained water chillers of 2 to 75 tons' capacity.

Water-to-air heat pumps in capacities from 2 to 45 tons including horizontal self-contained units of 2, 3, and 5-ton capacities.

Water-to-water heat pumps of 2½ to 75 tons' capacity.

Air-to-air split systems of 3 to 30 tons' capacity.

A full line of residential type gas and oil-fired furnaces.

Hundreds of "custom" units are available within the Typhoon line of factory-assembled products because of their adaptability (stage 3), according to Murray Kabili, vice president for manufacturing. "A dealer can design a system exactly fitted to each installation," he said.

Aid In Finding New Prospects

Typhoon's program for assisting dealers in finding new prospects and making them customers, stage 4 in the 1960 "assault on the moon," is summed up in a booklet of advertising aids prepared by Norman Reitman, Typhoon Air Conditioning's advertising and sales promotion manager, it was pointed out.

The booklet tells when, where, and how to advertise in newspapers and on TV and radio, in addition to providing mats and sample announcements for dealers; pictures various ways of identifying a dealer's place of business; gives the facts on direct mail, its uses and usefulness plus details on Typhoon's direct mail campaigns.

Stage 5 is a national accounts program. Regarding this, the company stated:

"Recognizing that new construction and remodeling of chain stores represents a major segment of the commercial air conditioning business available to its dealers, Typhoon has organized a department to work with chain headquarters to get their equipment specified and to help dealers qualify for bidding under the rigid requirements of chain stores.

"The department, under the direction of Edmund Seergy, works with installing dealers throughout the country and has already gained a large share of this market for 1960."

Typhoon's financing program (stage 6) for the 1960 sales year includes four different types of plans, according to Ira Rothfarb, controller of the division.

In addition to a capital conservation finance plan for stocking, a time payment plan, and a retail finance plan, Typhoon makes available a lease plan "to further broaden the market for each dealer and to provide a sales opener with the prospect who insists he can't afford air conditioning."

As incentives (stage 7) over and above the day-to-day business considerations, Typhoon is offering its dealers a 5-day trip to Las Vegas next February including cash with which to try their luck in Nevada's famed parlors of chance.

Dealers qualifying for more than one trip may take along members of their organizations or families.

Typhoon has suggested that the dealer's own initiative is needed to power the last stage in "shooting for the moon" so that the 1960 sales rocket "does not just wander in space."

John Gilbreath, sales vice president for Typhoon Air Conditioning, offered dealers these pointers:

"Check your market coverage to determine that you are reaching *all* potential customers, not just those whom you are accustomed to doing business with.

"Check your sales organization to determine that you have the people who can sell in all markets you are interested in.

"Check your advertising program; are you using every opportunity, including direct mail campaigns, to broaden your market?

"Do you know the architects and consulting engineers in your area; do they know you?

"Are you following up on every contact in order to build on past efforts?

"Is your costing system realistic?"

NEMA Planning--

(Concluded from Page 1, Col. 5)

The scope of this division also may be expanded to include other products not now covered by present NEMA sections.

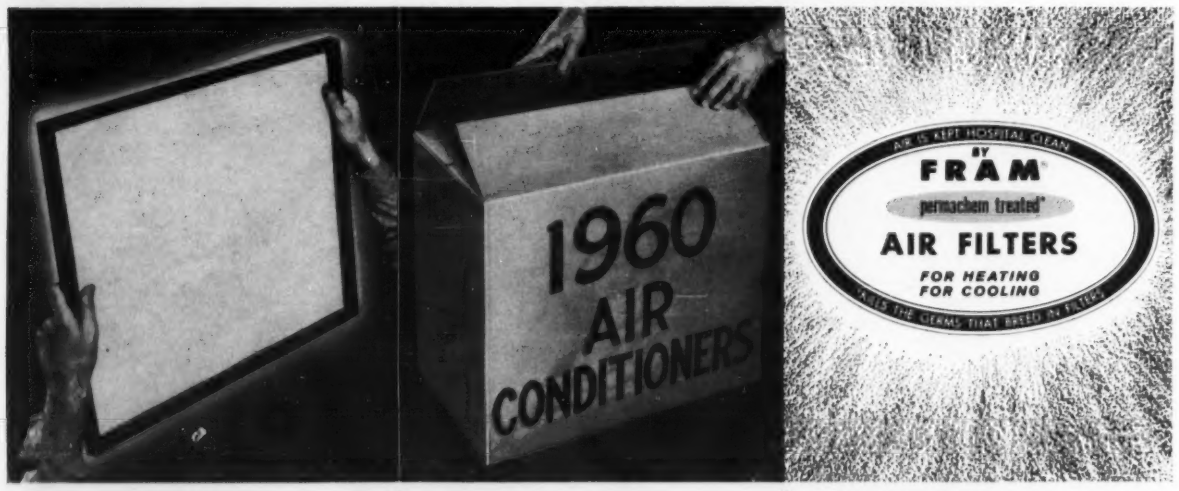
A look at next year's plans—by sections—shows these activities, among others, scheduled and coordinated with "Live Better Electrically," "Total Electric Home," and other industry promotional efforts in residential fields:

Room Air Conditioner Section—Consideration being given to expanding this year's program which featured the theme, "Beat the Heat With a Room Air Conditioner," and included such promotional elements as a new industry booklet entitled, "How to Choose the Air Conditioner That's Right For You."

Electric Refrigerator-Freezer Section—To be operated on the theme, "Have a Super-Market in Your Kitchen." The 1960 program will stress syndicated newspaper articles; national magazine publicity copy; and the development of material of promotional value to power suppliers, manufacturers, distributors, and dealers.

NOW... from **FRAM**®...

world leader in **filtration**... the sensational new **Fram** permachem treated **Air Filters that make big profits for you!**



NEW **FRAM** permachem treated **AIR FILTERS**

Kill 99+% of the germs that breed in filters • Stop mold, mildew, musty filter odors • Hold up to 34% more dust in AFI test procedures • Exclusive anchor-locked frame cannot settle, vibrate, blow, or soak loose • In sizes for all forced air furnaces and air conditioners, also rolls and pads.

IMMEDIATE ACCEPTANCE BY ORIGINAL Equipment Manufacturers

Eleven leading manufacturers of air conditioning equipment have already selected FRAM permachem treated Air Filters for original equipment in their 1960 models. (Their names will be announced in December.) FRAM's sensational plus features will be promoted by these manufacturers in their sales and merchandising programs.

POWERFUL ADVERTISING FEATURES THIS SEAL

Big-space ads in national magazines including THE SATURDAY EVENING POST, newspapers, and radio are telling your customers about the advantages of FRAM permachem treated Air Filters. Merchandising aids featuring FRAM permachem treated Air Filters are being used by original equipment manufacturers and are available to you.

"You've never made **such profit** from air filters before," says Theodore F. Low, President of Sims Corporation, Providence. "You can't miss with Fram's profitable pricing policies, selective distribution, merchandising support, and Fram's famous money-back guarantee."

GET THE FACTS TODAY!
Write Dept. FAC, FRAM CORPORATION
Providence 16, Rhode Island

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

High humidity also cuts the teat-flow.

So what? They recommend air conditioning for cowbarns.

Missouri farmers, being from the "Show Me" State, apparently have been awaiting this scientific evidence before acting. Dairy farmers and pig raisers in Illinois, Indiana, and Wisconsin already are cooling their livestock.

Bag-em Bill Consley

Another exciting big game adventure of H. L. "Bill" Consley, purchasing manager for the York Div. of Borg-Warner, has been described and pictured in *Outdoor Life* magazine.

Latest of the Consley hunting sagas is entitled "Desk Hand In the Arctic," and covers his successful quest for a 3,000-pound walrus in the Arctic Ocean.

Brother Consley is among the few hunters in the world ever to score a grand slam by bagging each of the four great North American Bears—grizzly, black, polar, and Kodiak.

He also ranks as one of the few white men ever to harpoon and kill a white whale in Hudson Bay from a canoe.

His story of the walrus hunt emphasizes the ability of Eskimo guides to navigate their light sealskin boat, through drifting ice floes out-of-sight of land, without a compass.

A mistake would be fatal, since no one could stay alive in that frigid water more than a few minutes.

Pictures taken by photographer-writer-hunter Consley show the walrus herd, the shooting of several big bulls, use of an ice floe as an outdoor butcher shop, and the skin boat (loaded almost to the water line) which took the meat back to an Eskimo village for storage in "deep freeze" caves dug under their homes.

Consley's next big hunt will begin in January, when he goes to Africa for a 60-day trip in quest of elephant, rhino, lion, water buffalo, and leopard.

Salesman, beware! This purchasing agent shoots to kill.

More News About Thermoelectric Progress

Long-mission satellites, including manned space vehicles, can tap a limitless supply of energy by utilizing a solar-powered generator developed by Westinghouse and Boeing engineers.

It operates on the Peltier Effect Principle, which interests refrigeration and heating engineers so much.

Niles F. Schuh, manager of the Westinghouse space technology lab located at Lima, Ohio, and Ralph Tallent, Boeing research engineer, have produced a sample thermoelectric generator for use in Outer Space.

Their operable sunpowered generator weighs 3 pounds and measures 20 in. in length. It converts sunshine into electric power continuously.

Such a thermoelectric unit will be a wonderful source of auxiliary power for space missions which may take months or even years to complete.

In a space-cruiser weight will be at a premium, reliability must be high (with little or no maintenance), and life expectancy of the equipment must be long on those flights.

Direct conversion of heat to electricity through this static device involves a phenomenon in which electric current flows through a closed circuit composed of two different metals. (This is the reverse of the Peltier Effect, which refrigerates or heats when electrified.)

Sun's energy is collected and concentrated by a mirror-like device. Said collector must have a large area.

Hence, it will have to be collapsed (like an umbrella) during ascent through dense air, and later erected at high space altitudes in ultra-thin atmosphere.

The Lima, Ohio, experimental sun-heat generator has a reflective aluminum sheet mounted in a 20-by-50-in. semi-cylindrical "umbrella."

"Dope," for one, hopes to live long enough to enjoy an exploratory ride through the solar system. How about you?

More Newspaper Boners

As readers of this column well know, we indulge a harmless hobby of collecting funny typographical errors.

Subscribers send a lot of them to us, and our staff spots them, too. Herewith the latest entries in the scrapbook.

She's selling hers in Rome. Frank Sinatra and everyone has been so patient.—*Detroit Free Press.*

Dr. Herbert York, Pentagon research chief, confirmed before the House Space Committee that the United States is experimenting Burnham, sergeant-at-arms, with a death ray, among other things, as a defense against ballistic missiles. — *Detroit Free Press.*

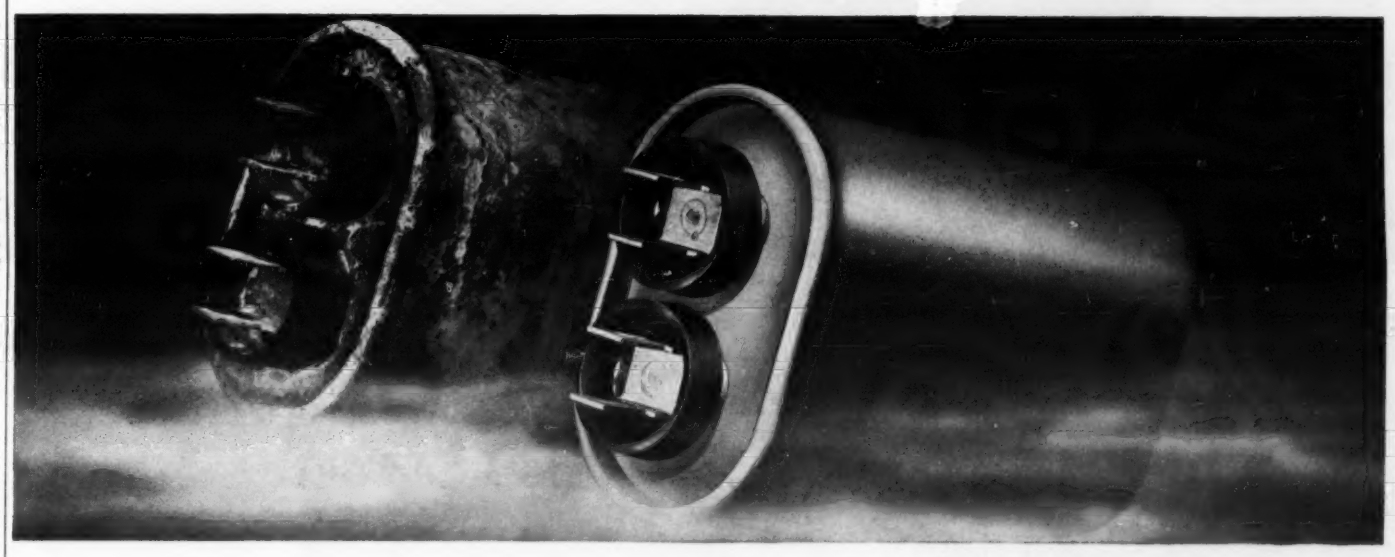
Press Group to Unevil E. W. Scripps Plaque. — *New York World Telegram & Sun.*

Graham Couple Is Entertained on 50th Wedding. — *Durham Morning Herald.*

Major U.S. appliances sell in Germany to the cooy; u 88 gy, wants "the best."—*Wall Street Journal.*

Hostess Never Bothers to Dress For Card Party.—*Springfield* (Ohio) *Daily News.*

G-E Drawn-case Capacitors Now Offer Greater Protection Against Corrosion

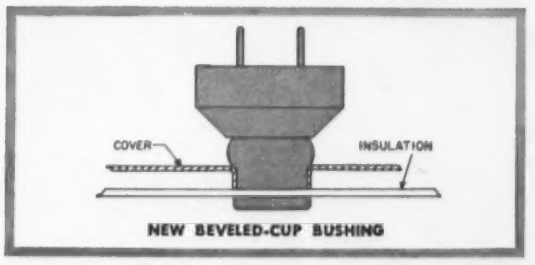


Unique Bushing Design and Automated Application of Granite-gray Paint Assure Uniform, Durable Finish

Accelerated tests in simulated industrial atmospheres proved that this new G-E Granite-gray paint finish inhibited rust and stain formation many times better than finishes used earlier.

Where other finishes were heavily corroded in as little as 250 hours in a 20% salt fog at 95F and 85-90% relative humidity, the Granite-gray paint showed only minor effects, even after 1000 hours.

Chosen only after comparative evaluation of 46 different finish systems under adverse climatic conditions, this remarkable new finish results in longer, trouble-free capacitor life.



NEW BEVELED-CUP BUSHING

To assure you of the maximum protection that Granite-gray paint offers, it must be applied in a uniform film completely covering the capacitor case. General Electric assures complete uniform coverage by use of a unique beveled phenolic-cup bushing and fully automated application of the paint. The new beveled cup facilitates complete paint protection of cover as well as case (above). While maintaining increased electrical creepage distance, the new cup shape also eliminates the collection of troublesome moisture around the terminals.

Granite-gray paint meets Underwriters' Laboratory requirements for all outdoor condensing and central air-conditioning applications.

For maximum protection against salt fog, industrial fumes, slinger condensate and other corrosive elements, specify G-E Capacitors with Granite-gray paint. Further information is available from your nearest G-E Sales Office, or write General Electric Company, Ft. Edward, N. Y.

448-4

GENERAL ELECTRIC

Where and How Defense Department Uses Air Conditioning

By Thomas R. Casberg,
Mechanical Engineer In Charge of Air Conditioning, Office of Asst. Secretary of Defense for Properties and Installations*

In order to present a complete report of the talk of Thomas R. Casberg before the Conference Session at the 11th ARI Exposition, the NEWS will publish it in three parts beginning in this issue.

I appreciate the privilege of talking with you about air conditioning in the Department of Defense . . . because of my belief that an explanation of some of our problems and a discussion of our policy will create a better understanding between the industry and the Defense Department which will be mutually advantageous. May I quickly add that the present relationship and understanding are good, but improvement is possible in any area and in this rapidly changing world there can be no real understanding unless knowledge is current.

*Presented at the special conference session, 11th ARI Exposition of the Air Conditioning & Refrigeration Industry, Atlantic City, N. J.

ARI Washington Staff Has Been Helpful

The ARI staff in the Washington office has been very helpful in providing current industry knowledge to members of the Department of Defense. I've heard many favorable comments from engineers in the three military departments, and I would like to add by own public thank you for the assistance of this group.

I frequently call on George Jones and Fred Reed for information, and though the questions are seldom routine, the answers are quickly given. Ben Sienkiewicz is never disturbed by unusual questions on statistics and I haven't stumped him yet. The ARI is to be commended on the Washington staff.

Department of Defense Exhibits Reviewed

Before taking up policy and related matters, I would like to comment briefly on the DoD exhibits at this exposition.

The Department of Defense displays have been prepared by the three military departments and are indicative of the broad range of interest in refrigeration and air conditioning. A substantial part of the Navy display is devoted to sub-surface uses of refrigeration and the Air Force display features the X-15 which uses air conditioning many miles above the surface. The Army display concentrates on the very important activity of training.

Navy Displayed Items That Have Been Modified for Shipboard Use

In the Navy exhibit there are two items not used on submarines but on surface ships. These quite ordinary pieces of equipment, an ice cube machine and a self-contained air conditioner, are commercial items which have been modified for shipboard use. The idea behind this part of the display is to show how regular production items can be used for special purposes.

The modification consists in strengthening the unit and providing for functions such as condensate removal under the roll and pitch conditions of a ship at sea. While you may not have thought of it before, I'm sure you can imagine what will happen to the condensate in a pan with a one-inch lip when a ship is rolling 15°. Under these conditions it is difficult to follow the manufacturer's instructions to install the unit in a level position.

Every manufacturer knows the importance of proper preparation and the value of special packaging prior to transporting his product to the user. Special containers, tie down bolts, padding, braces, and other means are used during shipment to protect refrigeration and air conditioning equipment. With these thoughts in mind it is easily understood why a regular commercial item such as a cube machine must be strengthened when selected for shipboard use. For on a ship the machine will never reach a final destination — it will be "shipped" for the life of the unit and must operate while being "shipped."

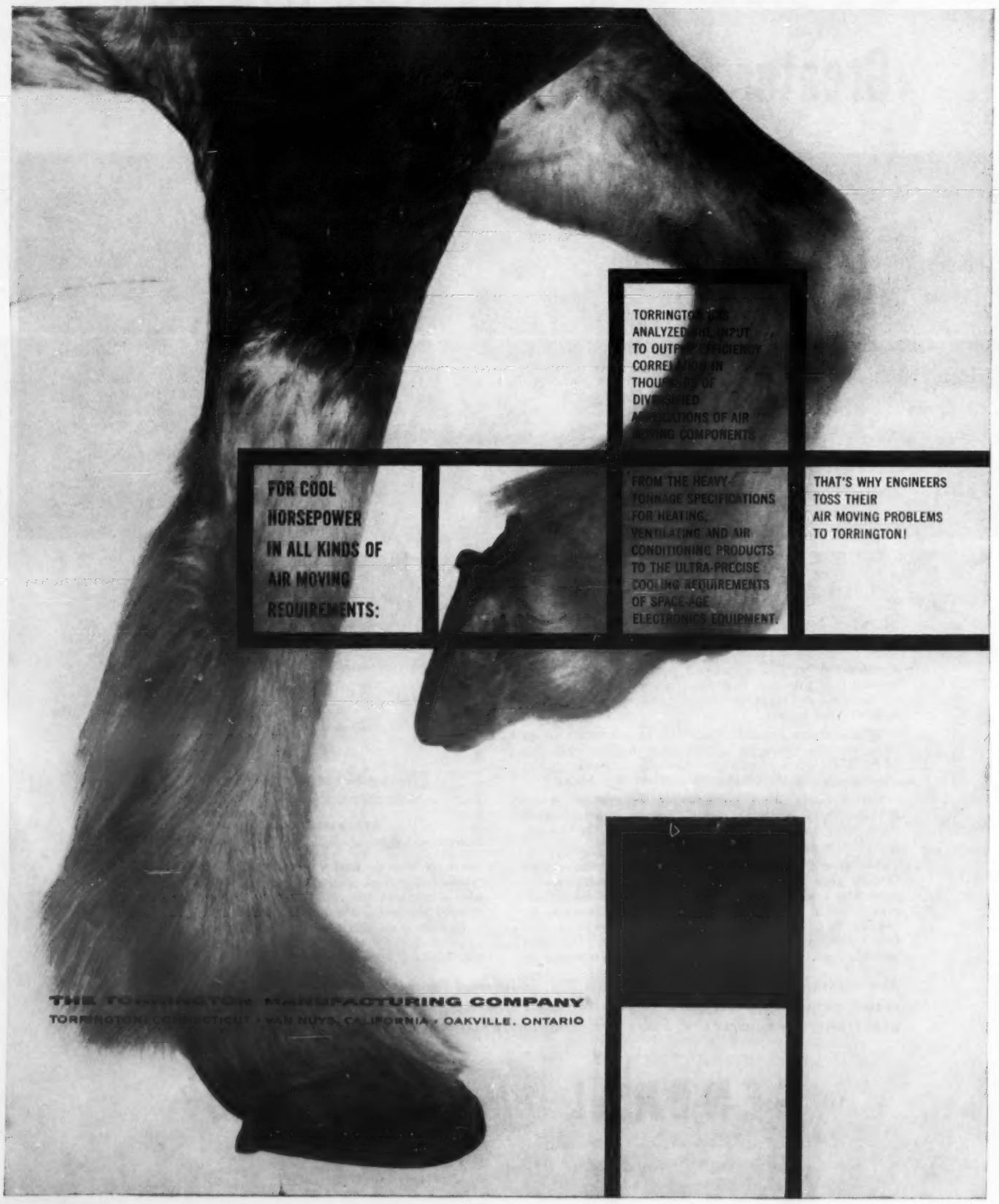
80-Ton Centrifugal Machine for Submarine

The Navy is also exhibiting a special 80-ton centrifugal machine which is being developed for submarine use. The goal in this development effort is to produce a proper component for the "silent service." The unit is concentrated in size and is essentially low in structural borne vibrations. This centrifugal is an important development in submarine equipment and in order to share it with you, tests on this machine were interrupted so the unit might be displayed at this exposition.

In connection with this quiet centrifugal the Navy has arranged a display of noise-analyzing equipment. Simulated laboratory conditions will indicate the methods and instrumentation used in development of low noise level refrigeration machines.

Nuclear Submarine Model Included In Display

The Navy exhibit includes a model of the new nuclear submarine *George Washington* and I believe the comment made at her launching by Assistant Secretary of Defense W. J. McNeil is of special interest to members of the air conditioning industry. Mr. McNeil said, "It is, like all nuclear-powered submarines, a true submarine in the sense that it is not dependent on the earth's atmosphere for its operation." Here is a weapon system which operates only because of complete air conditioning even to the point of being the first submarine that is able to



generate its own oxygen.

The Air Force is displaying a scale model of the X-15 which is a research aircraft, 50 ft. long with a 22-ft. wing span. Fully loaded it weighs 15 tons. It will fly at a speed of 3,600 m.p.h. and will reach an altitude of almost 100 miles. At maximum speeds the skin temperature is expected to be about 1,200° F. The cooling system uses liquid nitrogen at a temperature of -300° F. to maintain the cockpit and electronic bay at reasonable temperatures and pressure. Ninety-five percent of the liquid nitrogen is used to cool equipment and 5% to cool the pilot.

The Army is exhibiting training techniques necessary to supply men to operate and maintain air conditioning and refrigeration equipment. Training aids and equipment are being shown.

In addition, models of a dry ice machine and a 5-ton per day liquid oxygen plant are displayed.

How Operation Is Organized

As a background for a discussion of DoD policy, I should like first to review the organization of the Office of the Secretary of Defense. Mr. McElroy has divided his office into nine major areas, each directed by an Assistant Secretary of Defense. Some of these areas are Health and Medical, General Counsel, Comptroller, Manpower, Personnel & Reserve, Research and Engineering, and Supply & Logistics. My assignment is in Properties and Installations which is headed by Assistant Secretary Floyd S. Bryant. Mr. Bryant is a former vice president of Standard Oil of California and has a keen appreciation of the problems of industry.

Broad Division Made Between Fixed and Mobile Equipment

Air conditioning and refrigeration equipment may be divided into countless categories. In the Department of Defense a broad division has been made between equipment installed in a fixed location and that used in mobile equipment or that which is mobile itself. Refrigeration machines which are fixed are part of bases or installations and are the responsibility of Properties and Installations.

Mobile refrigeration machines are used in equipment which is either part of the supply system or part of a weapon system. Such mobile equipment is the responsibility of Supply & Logistics.

Cooling Vital To Most Complex Weapon Systems

Air conditioning has become an integral part of most of today's complex weapon systems. These systems cannot function without air conditioning, and it is vital to the proper operation of the weapons systems as any other part. We also find that surface ships as well as submarines are being air conditioned to produce more effective weapon systems. The electronic systems in many of the large missiles require temperature control, and although this may be done with liquid oxygen or nitrogen, it is still air conditioning.

The air conditioning for weapons systems is nearly always a non-conventional system. This may range from the liquid nitrogen system of the X-15 to the air cycle system of the missile platform bomber.

In contrast to mobile systems, we usually find air conditioning and refrigeration systems of the conventional type in fixed installations. Since the responsibility of the Office of the Assistant Secretary for P&I is limited to these fixed installations. I will devote the remainder of my comments to this area.

In broad terms, one function of Properties and Installations is to establish policy and criteria in the field of construction, and maintenance and operation of real property. One method of insuring adherence to these policies and criteria is through the review of the annual new construction budget before it is submitted to the Congress.

The value of all air conditioning and refrigeration equipment and systems in Department of Defense fixed installations is approximately one billion dollars. This is a worldwide figure and includes every type of application from the test hangar at Eglin Air Force Base where an entire aircraft can be placed in a -50° F. environment to a room cooler in a 60-year-old family quarters at Fort Sam Houston.

The annual maintenance cost is approximately $40,000,000. Now many of you may believe this cost of 4% to be low, but the total cost for maintenance and operation of real property is approaching two billion dollars annually and this cost is of real concern in the Department of Defense. Accordingly, every effort is made to hold these costs to a minimum.

(To Be Continued)

To Direct RSES Activities During 1960

NEWLY-ELECTED OFFICERS AND DIRECTORS of the Refrigeration Service Engineers Society for 1960 are (from l. to r.):

Front row: John H. Spence, St. Louis, chairman of the education and examining board; Charles G. Bell, Fresno, Calif., treasurer; H. T. McDermott, Chicago, secretary; Paul E. Darby, Tacoma, Wash., first vice president; Denver E. Wathen, Sr., Tulsa, Okla., president; Carl F. Howenstine, Canton, Ohio, second vice president; J. Lawrence Hall, Nashua, N. H., sergeant-at arms.

Center row: Directors Lloyd Reed, Denver; A. J. Lane, Raleigh, N. C.; Carl W. Price, Knoxville, Tenn.; Robert M. Duke, San Antonio; Leo Zolen, St. Paul.

Top row: Directors Ralph E. Porter, Chicago; A. J. Pike, St. John, N. B., Can.; Otto Grossman, Newark, N. J.; Michael Rudka, Oshawa, Ont., Can.; Wilhelm Goeckel, Buffalo.

COMPLETE BANK MODERNIZATION JOB INCLUDES...

B&G

PACKAGE LIQUID COOLER

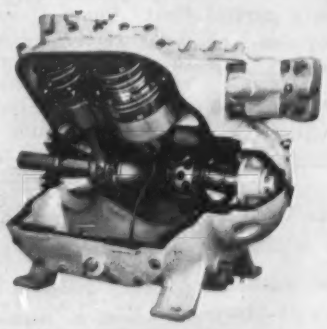
In this "100% remodeling" of The State Exchange Bank, Culver, Indiana, the old bank was stripped down to its framework and completely rebuilt inside and out.

Remodeling included installation of a cooling system using a B&G Package Liquid Cooler, the advanced design unit that's completely new in conception.

Numerous features have been designed into this unit to make it more compact, more efficient and longer lived. It is equipped with B&G products throughout—the only unit of its kind with all major components designed, built and guaranteed by one manufacturer. Everything is included—there are no extras to buy. Thus costs which might otherwise be charged to the job are eliminated.

With all its advantages, the B&G Package Liquid Cooler is strictly competitive in price.

B&G Package Liquid Cooler installed in The State Exchange Bank, Culver, Indiana. This is a 40-ton capacity unit with a six-cylinder B&G Compressor. A B&G Series 1531 Centrifugal Pump circulates chilled water.



B&G COMPRESSOR

—a new unit to meet today's requirements

Like the Package Liquid Cooler this unit, too, is new in conception—not an adaptation of designs originated 20 years ago. Better design means fewer parts—and fewer maintenance problems. All units have *one* bore diameter—a few interchangeable parts will service them all. B&G Compressors can be equipped with multi-step capacity control systems.

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They'll Do It Every Time

by

Jimmy Hatlo

SO, HAVING REACHED THE COMPULSORY RETIREMENT AGE—WE HEREBY PRESENT YOU WITH THIS GOLD-FILLED SERVICE PIN AND MEMBERSHIP IN OUR 30-PLUS CLUB. BE ASSURED YOU WILL ALWAYS BE IN OUR HEARTS—
A LOT OF GOOD THAT'LL DO RUTLEY. HE WON'T EVEN BE WEARING A COAT, SO WHAT'S HE GONNA DO FOR A BUTTONHOLE TO STICK THE DIME-STORE PIN IN?
HE USED TO GIVE THE OLD GUYS A WATCH WHEN THEY DIDN'T NEED TO BE ON TIME FOR ANYTHING—
BULLGRAVY IS TEN YEARS OLDER'N POP, BUT THE ONLY WAY HE'LL GO OUT IS ON A SHUTTER FROM AN OFFICE PARTY..
THE PENSION HE'LL GET IS JUST ENOUGH FOR CAR-FARE TO THE RELIEF BUREAU..
DRUMMING THE OLD WAR HORSE OUT OF THE REGIMENT...
THANX AND A TIP OF THE HATLO HAT TO MRS. ART. ERDMAN, RALPH, SO. DAKOTA
HATLO
8-19
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Industrial Air Conditioning Repeats an Uneconomic Economic Cycle

ORIGINALLY air conditioning was developed for industrial purposes. Needs for temperature-and-humidity control in textiles, printing, close-tolerance machining, etc., were responsible for the foundation of the air conditioning business.

Air conditioning for comfort (in homes and stores and public buildings) came later, as a welcome by-product.

During the middle of the depression-plagued 1930's this publication—sensing a significant new cooling trend—changed its name from ELECTRIC REFRIGERATION NEWS to AIR CONDITIONING & REFRIGERATION NEWS.

For quite awhile all the air conditioning news we could report was concerned with installations in factories and huge people-housing buildings such as offices, hotels, and hospitals. Commercial and residential applications were slow to get going in those pre-World War II days.

Eventually the tail began to wag the dog. Commercial and residential air conditioning composed most of the news printed in this industry newspaper, because activities in those fields were stirring up the most interest and excitement.

Industrial air conditioning rarely is newsworthy even today. Nor does it generate many problems about which an editorial-writer can fulminate and detonate. And only a few big contractors (or manufacturers' field teams) can deal with it.

Yet, its profits underpin *(or have underwritten)* the entire air conditioning industry and its tentative experiments in commercial and family market penetration.

Almost all new big building construction is air conditioned nowadays—or allows leeway for installation of air conditioning later.

Contrariwise, the relative saturation of air conditioning in existing big buildings is so little that a tremendous potential for this oldest part of our industry ("applied" or "engineered" or "industrial" installations) can be projected well and far into the future.

Sizes of systems employed in hotel, hospital, office building, and factory construction range from 25 tons up to gigantic 3,000 ton installations.

In new construction (since provision can be made for the enormous space requirements of condensing units, risers for ducts and piping, and the structural loads imposed) the 150-ton or larger central station air conditioning job has become the minimum deal.

At its heart such a system employs a centrifugal compressor, a steam absorption condensing unit, or several conventional compressors operating in series. Cooling is accomplished either by directly refrigerating *air* and distributing it through a network of ducts, or cooling *water* and flowing it through piping to each area delivery diffuser.

Heating of a big building often comprises a system which is entirely separate from air conditioning (in the refrigeration sense of the term). However, it can and sometimes does operate in conjunction with a primary cooling system—utilizing the same ducts, piping, and coils.

Like refrigerated comfort, heating can be accomplished by warming air directly, or by circulating hot water or steam through radiators over which air passes.

Often the only satisfactory manner in which old buildings can be air conditioned, either because of space limitations or structural designs, is through the use of "package" heaters and coolers. "Package units" offer this advantage in commercial and industrial buildings:

You need cool or heat only those areas where relief is wanted during intemperate seasons.

Also, "package units" are serviced easily, and operational failures cause only partial loss of temperature control as opposed to complete loss with a central system.

Obviously there is no one single sure type of buying or specifying influence in the design and installation of industrial (big) buildings devoted to whatever purpose) air conditioning systems. This has led to trouble.

What kind of trouble? Price wars, to be blunt. During its present cycle of "buying installations" by price-cutting, industrial air conditioning is sliding back to first base too late. It is repeating the sad, uneconomic cycle of Price Before Purpose from which the room air conditioner business now is emerging.

According to the Bible, "the first shall be last and the last shall be first."

Industrial air conditioning was first in this business. Must it be last to become sensible and profitable?

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F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

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AND NOW WE KNOW . . .

39 Irving Road
Natick, Mass.

Editor:

Just a quick note. No time to say how great your paper is.

Re: 10/26 Inside Dope.

American International College is in Springfield, Mass. Quonset Point NAS (Naval Air Station) is in Quonset Point, R. I. Both old opponents of my alma mater, Worcester Tech.

DAVE ELOVITZ

SOUTH TEXAS HAS A LOT OF HEAT PUMPS, TOO

Central Power & Light Co.
Uvalde, Texas

Editor:

We in the utility business are very appreciative of your recent Heat Pump Issue. Although many references were made to the Southeast and California, we would also like to remind you of the ever increasing number of heat pump installations in south Texas. We installed our first heat pump in 1947.

A large portion of our current efforts is being directed toward encouraging the use of better insulation and structural designs of buildings to keep year-round operating costs low. We feel this is the most important element of heat pump applications, even when the heating requirements are less than 1,000 degree-days but considering that cooling requirements are over 3,000 degree-days in our area.

SAM H. BARNES,
District Commercial Manager

INTERESTING, ACCURATE, AND INFORMATIVE

The Bastian-Blessing Co.
Chicago, Ill.

Editor:

Allow me to express my personal appreciation of "Inside Dope." Its ahead-of-the-news coverage is interesting, informative, and remarkably accurate.

J. R. BUNCE,
Chief Engineer

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING, HEATING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on residential, commercial, and industrial air conditioning, heating, and refrigeration for contractors, dealers, consulting engineers, distributors, servicemen, and manufacturers. Read the industry's only newspaper every week—you'll profit by it—only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10 per year.

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450 W. Fort St., Detroit 26, Mich. 11-23-59

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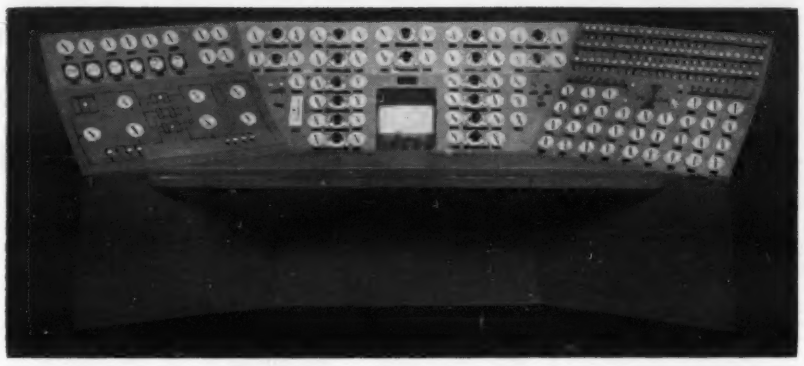
Single Console Controls Dual Duct, High Velocity System In Bank Building



CENTRAL control console from which National Bank of Detroit engineer can stop or start fans and blowers on any one of the 23 fan and coil systems. Hot and cold deck coil temperatures can also be regulated here.

By George M. Hanning

DETROIT — Clean air and comfortable working atmosphere are important in the banking business.

So important that the National Bank of Detroit has spent a significant sum of money to see that its employes and customers get them in its new home office dedicated last month in downtown Detroit.

"We are a commercial bank," explained F. A. Sando, resident mechanical engineer for the bank. "We have customers that are extremely important and we want them well satisfied.

"We also have a policy to keep our employes as comfortable as possible at all times. We are willing to spend a significant sum of money to make sure that they are.

To best obtain this result, the bank installed a dual duct, high velocity air distribution system in the 14-story structure—first new office building to rise in downtown Detroit in 25 years.

Single Engineer Controls System from Fourth Floor

Outstanding feature of the 1,200-ton system is that operation of the compressors and air distribution through 23 air circulating systems throughout the building can be controlled by a single engineer seated at a Johnson Service Co. control console on the fourth floor. More of that later.

The system was designed by T. W. Bradford, consultant, Sando, and Albert Kahn Associated Architects and Engineers, Inc., who designed and engineered the building.

They faced all the usual problems of heating and cooling a downtown office building plus the problem of ventilating a sub-basement vault containing approximately $3 billion in cash and securities and offsetting a 500,000 B.t.u.h. internal heat gain from lighting on the 26-ft. high ceiling on the main banking floor.

System Offers Rapid Response To Solar Loads

The dual duct system was selected over other available systems, according to Sando, because it offers rapid response to changing solar loads and represents the system most flexible to individual comfort demands in private offices.

As against a water circulation system, he said, it eliminates outside grilles under windows, reduces the number of small motors required thus lessening maintenance problems, and seems superior to many other systems in keeping operational costs to a minimum.

To air condition the bank building, one 400-ton and two 800-ton Worthington water chillers were installed in the penthouse topped by a 2,000-ton Marley cooling tower. The 400-ton centrifugal unit can handle minimum requirements for odd-hour shifts during spring and fall seasons. Combinations of the three can handle any cooling load without overloading any one compressor.

There is plenty of extra refrigeration capacity in case of a breakdown. Total heat gain was calculated at 1,200 tons and total heat loss at 30 million B.t.u. Design conditions were 95° d.b. and 75° w.b. in summer and -10° F. in winter. Interior design are 80° F. d.b. and 67° F. w.b. with 50% r.h.

Chilled water is supplied through a common closed loop system to cold deck coils in 23 air circulating systems throughout the building at temperatures between 42 and 46° F.

Refrigeration compressors can be modulated by the engineer on duty from 10% to full capacity by using hot gas by-pass. A variable vane controls amount of gas by-passed or run through the compressor. Cold water temperature determines operation of the units.

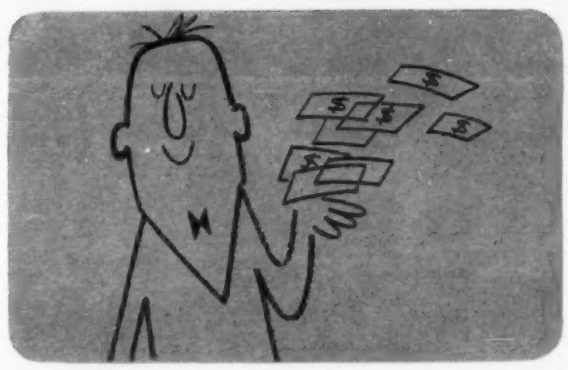
Air handling units are clustered in three locations. Five in the sub-basement deal with vaults and maintenance areas there plus the small loan department and parking garage in the basement. Ten are in the fourth floor fan room and eight in the penthouse fan room.

In the dual duct systems, predetermined amounts of fresh air are mixed with predetermined amounts of recirculated air and then passed through an American Air Filter Co. mechanical, cleanable filter and a Westinghouse Precipitron electrostatic air cleaner.

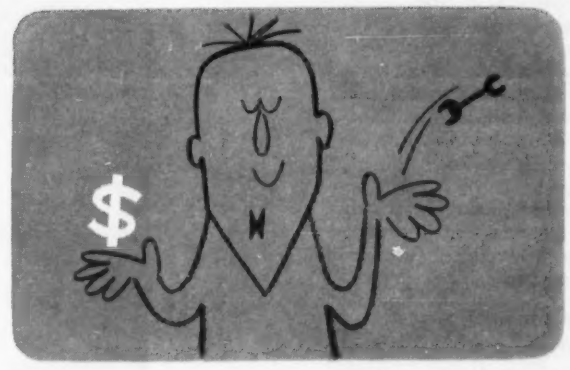
Filtered air is drawn through an American Blower high velocity air foil fan and then divided so that proportional volumes pass an Aerofin hot deck

(Continued on next page)

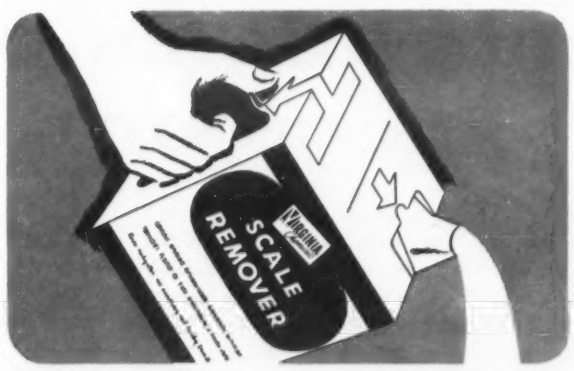
Let "VIRGINIA" show you a new profitable way to sell water treatment service



Want a healthy stimulus for your present business? Let "Virginia" show you how to sell water treatment service to not just a few of your customers, but virtually *all* of them! Increase your profits from 25 to 50%, keep your men busy all year round. This moneymaking plan is yours—just write for *free* booklet, "How to Turn Water into Money."



This new concept of water treatment service is easy to sell and easy to follow through. Water treatment the "Virginia" way requires almost no special training for service men. And your customers will appreciate it, too—because this service will add years of life to their air-conditioning or refrigeration equipment, reduce downtime and cut maintenance costs.



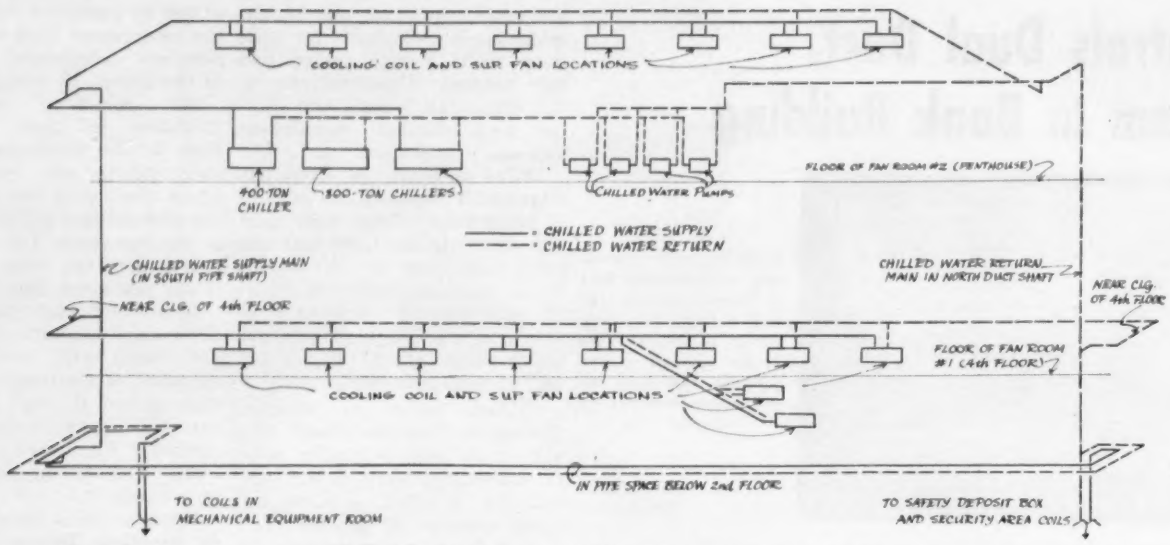
"Virginia" Water Treatment Chemicals make the service easy, effective and profitable. With "Virginia" Liquid Scale Remover, for example, units choked with thick scale are no problem. Powerful yet carefully inhibited, it goes to work instantly, cleans fast, has dissolving capacity 50% greater than similar cleaners. The light container is easy to handle, will not break.

Other "Virginia" Chemicals for efficient water treatment include Water Treatment Scale and Corrosion Inhibitor, Solid Scale Remover, Algae-Cides #1 and #2, and Ice Machine Cleaner, all available from your nearest wholesaler. For free folder, "How to Turn Water into Money," write Refrigeration Div., VIRGINIA SMELTING CO., 132 Jefferson St., W. Norfolk, Va.

ESOTOO • V-METH-L • CAN-O-GAS • VASCOCEL • PERMAGUM • PRESSTITE TAPE • SUNISO REFRIGERATION OILS
WATER TREATMENT CHEMICALS • NATIONAL SALES AGENT & REPACKER FOR DU PONT'S "FREON" REFRIGERANTS

Available in Canada and many other countries

VIRGINIA® Chemicals


COOLING COIL AND SUP FAN LOCATIONS
400-TON CHILLER
300-TON CHILLERS
CHILLED WATER PUMPS
FLOOR OF FAN ROOM #2 (PENTHOUSE)
= CHILLED WATER SUPPLY
= CHILLED WATER RETURN
CHILLED WATER SUPPLY MAIN (IN SOUTH PIPE SHAFT)
NEAR CLG. OF 4th FLOOR
CHILLED WATER RETURN MAIN IN NORTH DUCT SHAFT
NEAR CLG. OF 4th FLOOR
FLOOR OF FAN ROOM #1 (4th FLOOR)
COOLING COIL AND SUP FAN LOCATIONS
IN PIPE SPACE BELOW 2nd FLOOR
TO COILS IN MECHANICAL EQUIPMENT ROOM
TO SAFETY DEPOSIT BOX AND SECURITY AREA COILS

SCHEMATIC flow chart of chilled water circuit to coil and fan systems located throughout the National Bank of Detroit building.

Bank Cooling--

(Continued from preceding page)

steam coil and a cold deck chilled water coil.

Hot and cold air then travels through parallel ducts at 4,000 to 6,000 f.p.m. at 6 in. static pressure to the spaces to be conditioned. High static pressures compensates for pressure drop through relatively small ducts on long runs.

In interior zones, air is fed into Connor mixing boxes located in the space between ceiling and floor slab. There, it is mixed to desired room temperature and diffused through Connor or Pyle-National ceiling diffusers behind custom made metal pan ceilings having 11% free area.

On the main banking floor, however, a grid of aluminum hexagonal cell lighting diffusers hangs about 20 in. below the ceiling proper, hiding lighting channels mounted on the ceiling. Ducts running through a piping space above the ceiling introduce air through standard diffusers on the ceiling.

Separate Systems Handle Perimeter Zones

Separate systems handle perimeter zones. Hot and cold deck air is fed into under-window mixing boxes, mixed to desired temperatures, and diffused to the room through a narrow ½-in. slot 32 in. long. Mixing boxes change velocity energy to static energy so that air is introduced into the office space at low velocity, usually 150 f.p.m., to control air noise. A manually operated deflector directs air either up the window to conteract downdrafts or out into the room.

Helical spring dampers on each mixing box adjust the amount of hot and cold air supplied to it in response to room thermostat demands. Each box is also dampered to supply constant air volume to the room.

Something relatively new, constant volume control is expected to prevent disturbing changes in static pressure. These might occur when a whole series of boxes shift from hot to cold, but one box at the end of the line is not called upon to shift with them.

In such a case, the end box would normally receive an overdose of hot air, making it difficult for its thermostat to exercise control.

To avoid this, the constant volume control, a static pressure regulator connected to the damper motor in each mixing box, compensates for static pressure changes in the mixing zone to maintain a constant volume of air.

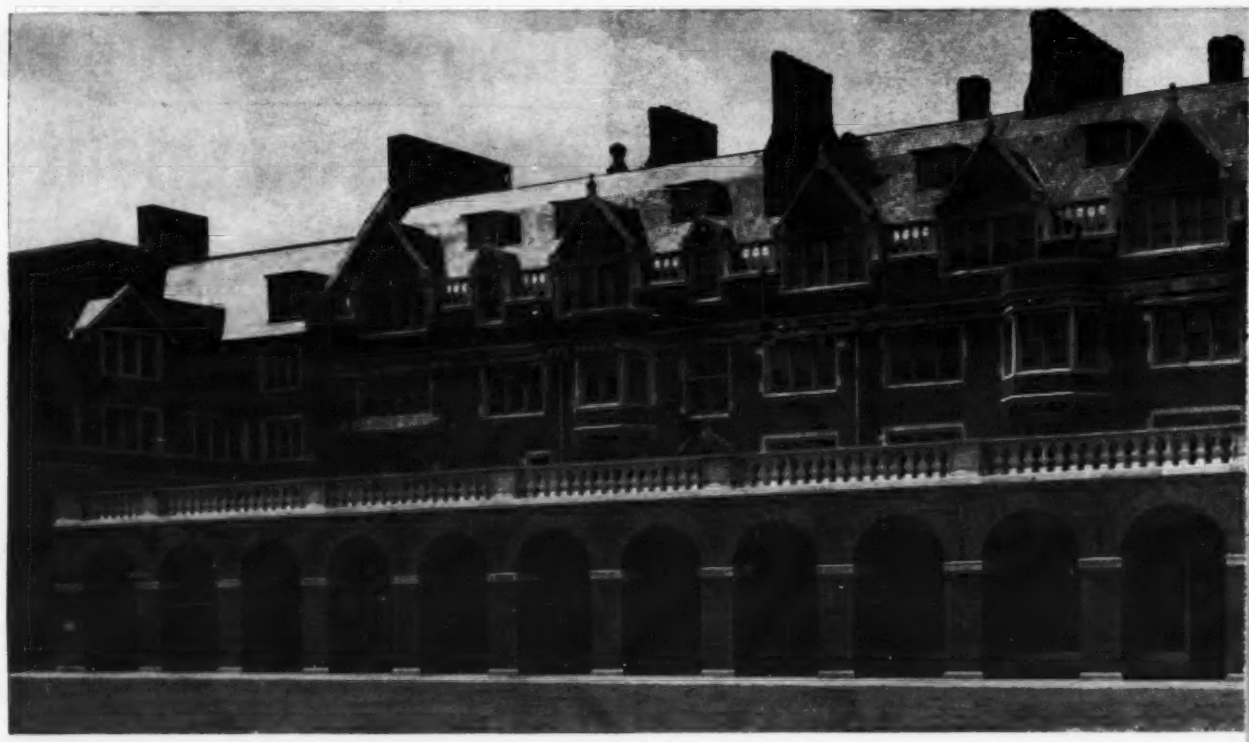
Thus, when thermostat on last box says not to close down the hot duct damper, constant volume control closes it down anyway, just to limit the volume of air. This does not affect temperature but maintains volume of design c.f.m.

Console Does More Than Monitor; It Controls

Control of air distribution throughout the building can be handled by a single engineer seated at a console on the fourth floor right next to the engineering offices.

Control console is not just a monitoring board, but an actual control center. From here, the engineer can start or stop any or all of the 23 fan systems, ad-

Acme ... the **practical** approach to



FOR THE MEN OF PENN... AIR CONDITIONING BY

Now, residents of the University of Pennsylvania's McClelland Hall Men's Dormitory study in climate controlled comfort year 'round. For a recently completed lounge and study addition, designed by architects Trautwein and Howard, consulting engineers Moody and Hutchinson, is Acme system air conditioned.

McClelland's "men of Penn" aren't alone in their appreciation of Acme air conditioning . . . Mr. Robert McCray, Building and Grounds Department at the University, likes the excellent cooling and operational efficiency of the system . . . and Herman Goldner Co., Inc., contractors, were well pleased with the ease and simplicity of installation.

Acme, incidentally, is no "stranger" to the University of Pennsylvania because a number of other buildings on the campus including . . . Moore School of Electrical Engineering, Chemistry Building, Faculty Club and Univac Building . . . also contain Acme equipment. And small wonder . . . for the "acme" in air conditioning and refrigeration systems is Acme.

Acme INDUSTRIES, INC.

JACKSON, MICHIGAN

Manufacturers of Quality Air Conditioning and Refrigeration Equipment Since 1919

just hot deck temperatures in any system, and, through the operating engineer in the penthouse, control operation of the refrigeration system. He is also master of the snow melting system and pneumatic tube system.

The control console cost the bank an extra $40,000, Sando remarked, but the bank will get its money back in only a few years. The console will mean a saving of two men per year, or about 10% less than normal operating costs for a building of this size (538,000 sq. ft., gross).

Though the console is a mass of dials and buttons, reading it will be a simple matter. Dual pointers on gauges will indicate both the temperature a system was set to maintain and the actual temperature in the conditioned space. Any variation from desired temperature is instantly visible.

Space temperature dials are on the lower right with start and stop pushbuttons above them. In the center are hot and cold deck temperature dials with adjusting switches. On the left are water and steam temperature, outdoor temperature, electrical ammeters, voltmeters, and counters. On lower left is refrigeration system diagram.

All Major, Critical Areas Show on Console

All major and critical areas of the building are represented on the console. To make corrections in any area, the engineer has only to push the appropriate button. That starts or stops fan or pump motors anywhere in the building. Turning switches in the center modulates steam valves on hot deck coils.

Only hot deck temperatures are regulated because the refrigeration system has sufficient capacity to reduce the building temperature to operating minimum if necessary.

Modulating the hot deck covers a sufficient range to give any desired room temperature.

On occasions when entering air needs no further cooling, chilled water supply can be shut off at the coil of any system. This avoids unnecessary use of refrigerating machinery.

On such occasions, the engineer at the console can employ an electronic communications system to reach an operating engineer. Each man carries a pocket receiver.

He picks up the telephone and gives to operator the set number of the man he wants. She pushes a button causing that set, and only that set, to "beep," no matter where in the building that man might be. Hearing the beep, he goes to the nearest telephone for instructions.

Starting and stopping motors is accomplished through an IBM system of dual coded relays. An electronic transmitter in the console superimposes a high frequency impulse over the building's 110-volt circuit.

This energizes a relay mounted near the motor. The relay, in turn, energizes the starter coil, allowing the fan or pump to be started.

Six command coded impulses are transcribed over a single channel. A series of motors can all be coded to that single channel. They can be programmed together so that by switching the channel selector and pushing a single button, any one of the motors or all together can be started or stopped.

Another feature of the console is a screen in the center on which any one of 50 color diagrams can be flashed by a push of a button. Projector is located in the base of the console.

Slides cover all fan systems, control systems, refrigerant circuits, cooling tower circuits, pump systems, pneumatic tube systems, fire protection systems, and electric systems.

For example: If the engineer wishes to refresh his memory of what areas fan system 23A serves, or what system covers the west side of the sixth floor, he merely pushes a coded button and that diagram flashes on the screen.

In a typical dual duct system starting the supply fan energizes a solenoid air valve. The valve opens the minimum fresh air damper, allowing 25% fresh air to enter the system, mixing with 75% recirculated air.

A thermostat in the mixed air chamber modulates the maximum fresh air damper and the recirculating air damper to maintain the desired mixed air temperature.

Fifty percent fresh air is design condition. Whenever outdoor air rises above 75° F., a thermostat at the outdoor air inlet closes the maximum fresh air damper and repositions the recirculating air damper and minimum air damper to pass only 25% fresh air.

A gradual air switch, operated from the console positions the control point of a thermostat downstream from the hot deck coil. This modulates the heating coil valve to maintain scheduled hot deck temperature (designed for 110° F.

A freeze protection thermostat downstream from the cooling coil stops the fan whenever the cooling coil discharge temperature falls below its setting.

A variable vortex damper on each fan system, manually controlled, cuts down on air volume for winter operation and increases it for summer cooling.

Sub-Basement Vault Was Special Problem

A special problem was air conditioning the sub-basement trust vault. A low velocity, single duct system is used. To avoid penertating the 2 ft. thick wall that surrounds the trust vault, safety deposit vault, and trunk storage area, a distribution duct was brought to a plenum chamber built outside the security wall.

Access to the plenum room is possible only after passing several guards. A 7-ft. high, 1-ft. thick stainless steel door separates the plenum chamber from the trust vault.

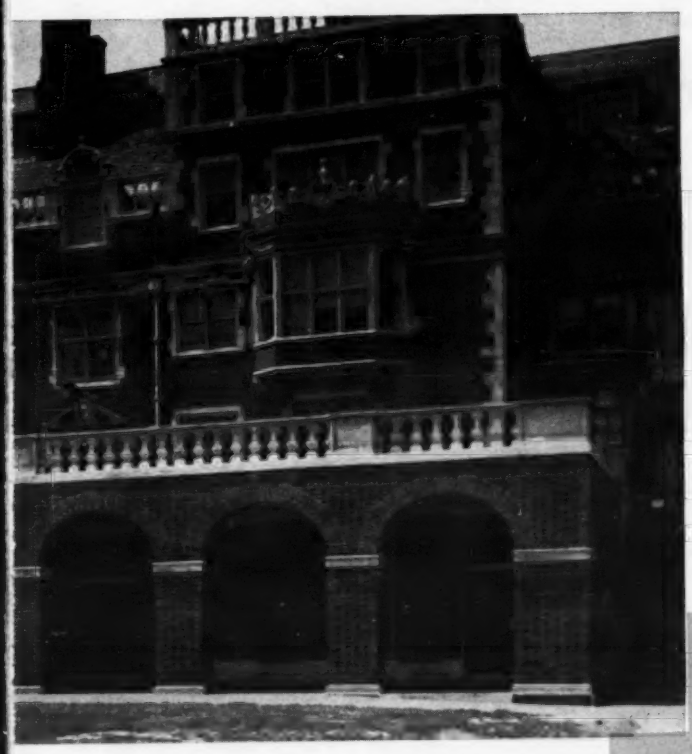
On the vault side of the door is a ceiling suspended ventilation unit that distributes air through distribution boxes above the ceiling pan. Ventilation rate is stepped up to 2.3 c.f.m. per sq. ft. to reduce chemical vitiation of the atmosphere. This compares with a rate of about 1 c.f.m. per sq. ft. in the rest of the building.

In the far corner of the vault are two high wall registers. A fan in the trunk storage area draws air out of the trust vault and distributes it through ducts to the trunk storage area and safety deposit vault.

From there the air exfiltrates to adjoining maintenance areas outside the security walls. All return air is taken from the maintenance areas, which are separately cooled and heated.

Air conditioning contractor on this job was J. Brodie & Sons Co. here. Heating contractor was Glanz & Killian.

air conditioning



Acme

Practical, is indeed the word for complete Acme air conditioning systems . . . practical from every standpoint. Take the Acme packaged chiller, evaporative condenser, and central station air handlers used in McClelland Hall's 60-ton system . . . each unit, thanks to Acme's out-in-front engineering, packs more capacity and efficiency in less space and weight than ever before. As a result, Acme system components save valuable building space . . . reduce structural requirements . . . cut installation time and costs to a minimum.

You'll find, too, that Acme equipment . . . available in every case in a wide range of models and sizes . . . gives you system flexibility, smooth, quiet, dependable performance, and long-life ruggedness. You can count on it, because Acme air conditioning and refrigeration equipment has "set the pace" since 1919.

AIR HANDLERS
Central station, multi-zone, remote room conditioners, 200 thru 36,000 CFM.
WATER SAVERS
Cooling towers, evaporative and air cooled condensers, 3 thru 120 ton capacities.
PACKAGED CHILLERS
Seven basic models, size ranges for every need from 1¾ thru 125 tons.

What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

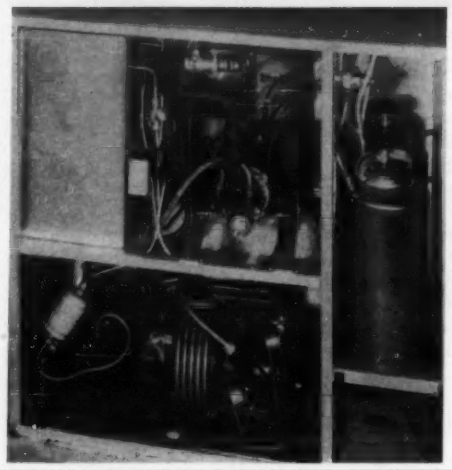
Post-Mix Dispensing System Employs New Carbonating, Cooling Principle

CLEVELAND—The Dispensing Equipment Mfg. Co. here has announced a new patented, post-mix dispensing system "for providing top quality soft drinks and soda water in commercial establishments."

Ray Kromer, formerly executive vice president of Refrigeration & Air Conditioning Contractors Association, heads the company.

According to Kromer, "a revolutionary new principle of carbonating and cooling has been developed that will provide quality soda water and soft drinks at remote stations not surpassed by any bottled beverage." It's called "The Super Soda System."

Kromer stated that "simplicity and operation of the compact cooling system results in a speedy, economical installation with low service cost and is an innovation in the method employed in providing a completely saturated solution of carbonated water for serving as drawn or for mixing with syrup to provide authentic name brand soft drinks.



The Super-Soda Power Unit may be installed in the basement, in the back room, or on the roof. It will also fit under the bar, according to the manufacturer.

"We continually circulate the refrigerated carbonated water from the carbonator storage tank and back again through an additional spray nozzle—much the same as a running brook. Through this continuous circulation and return the solution becomes completely saturated.

"With this two-stage carbonating principle and a unique refrigeration application we develop a solution containing in excess of nine volumes. The flexible re-circulating line is extended to supply the refrigerated soda water to faucets above the cabinet and to any remote station in the store that is best suited for customer service.

"The extreme station from the cabinet is the point of return to the storage tank and completion of the cycle.

Simple To Install Additional Units

"To install additional service stations en route is as simple as tapping the line, inserting a T to which the faucet and bracket is attached.

"The rate of flow and size of line has been engineered to allow less than one degree of heat gain throughout a circuit covering 100 ft. There is no limit to its flexibility or reasonable number of stations.

"The syrup lines are refrigerated by nesting them with the supply and return soda lines. Slip-on insulation provides a neat flexible supply conduit.

Refrigerating System Completely Closed

Kromer pointed out that the refrigerating system is completely closed, "thereby meeting the growing objections from health departments to open water baths. All the cooling is done in the specially built cooler-carbonator. Since no secondary refrigeration is needed for remote stations—the service problem is nil."

Kromer further claims that no warm up throughout the system results in a consistent drink with no change in taste.

The company points to field installations that have been in operation throughout the summer "without a service call."

Kromer said production is scheduled so that a limited number of exclusive distributors will be supplied with inventory early in 1960.

Two models will be offered: the heavy-duty remote package and a smaller self-contained package with syrup tanks and faucets in an upper section; the power unit in the lower section may be used for the base or may be installed remotely under a sink.

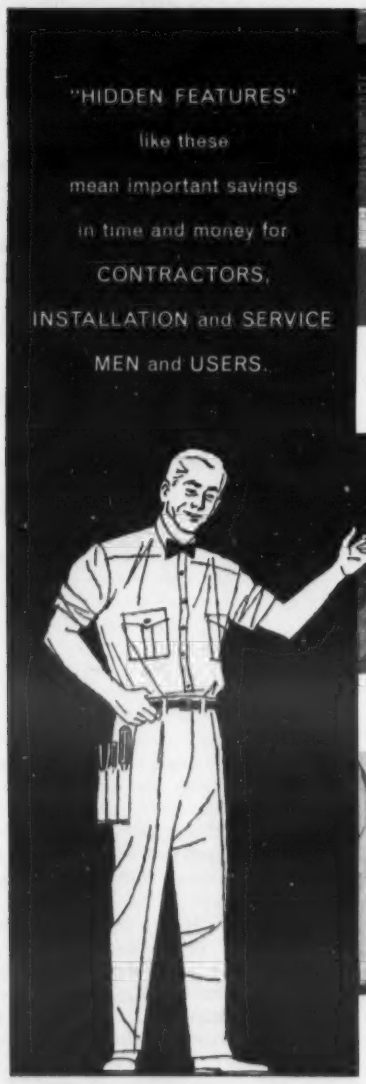
The company is operating under patents allowed and applied for.

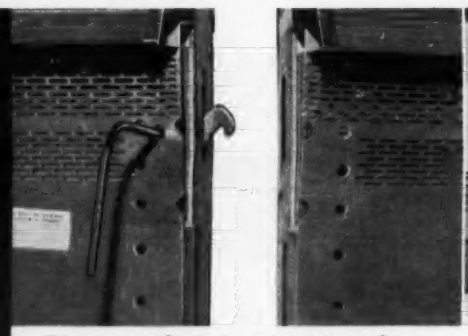
One of a series

TYLER PRE-PLANNING

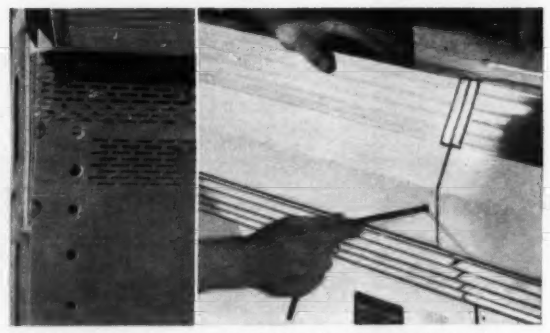
helps speed installation and service

"HIDDEN FEATURES" like these mean important savings in time and money for CONTRACTORS, INSTALLATION and SERVICE MEN and USERS.





Tyler-pioneered Oscillock speeds installation. Cases can be completely assembled in lineup and against wall, with all connections easy to reach.

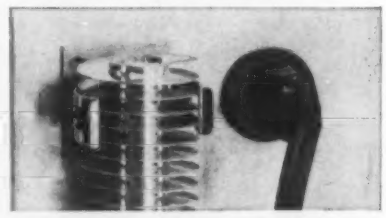


Oscillock pulls cases snugly together, easily set with Allen wrench (furnished) —saves time, cuts labor costs.

Trays in bottom of Tyler Sales-Cases are readily removed, without screws, clips or fasteners . . .

Just a twist of the dial and presto!—panel opens for easy access where required.

. . . for easy access to blower fans and other factory-installed refrigeration component sub-assemblies.



Snap-in defroster, plug-in electrical outlets are typical of the many time-saving efficiencies pre-planned by Tyler.

Tyler opens up new profit opportunities to aggressive, well-rated commercial refrigeration organizations. Write today for details.

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Tyler Refrigeration Corporation, Dept. AR-11 Niles, Michigan.
Send details on ☐ Tyler Distributor Franchise Program ☐ Sales-Cases ☐ Air-Screen Sales & Storage Coolers ☐ Condensing Unit Assemblies ☐ Shelving ☐ Checkouts ☐ Reach-Ins ☐ Storage Freezers ☐ Walk-In Coolers ☐ Rolling-Cold Packaging Conveyors.

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Canada: Tyler Refrigerators, 732 Spadina Ave., Toronto, Ontario. (Export: Tyler Refrigeration International, C. A., Apartado Postal 9262, Caracas, Venezuela, S. America)

Installation & Service Practices In Commercial Refrigeration

One of a group of discussions on several phases of the installation, operation, and servicing of commercial refrigeration equipment.

By Frank J. Versagi

Customer Relations (1)

The average national or large regional food chain buys refrigeration equipment from three commercial manufacturers who, one way or another, have been placed on an approved list of suppliers. The average commercial manufacturer tries to get on this approved list of the big chains, although most are wary of getting too much of their business tied up with national accounts because of the obvious adverse effect if they are dropped from the approved list—as has happened.

Because they have large, formal organizations with their own engineers and construction people, the chains have quite definite ideas on what they like and dislike in commercial equipment and in supplier attitudes. The suppliers have definite opinions about the actions of chain store buyers and engineers.

Most of this opinion is mutual respect, but—as is to be expected—there are areas of disagreement. From the many interviews with both segments, the NEWS here summarizes the phases of chain-manufacturer relations which obviously need improvement.

Much of the disagreement is based on misunderstanding of what is to be expected from the equipment. An extreme example of this is cited in another article in this series: the customer who complained because a bottle cooler would not cool and hold 1,000 lbs. of hot chili per day. In some cases, such misunderstanding is due to ignorance on the part of the purchaser; in others, it is due to the natural tendency of salespeople to oversell.

Personnel Turnover Seen as Problem

In most cases, however, it is due to the very understandable fact that existing store personnel do not know the limitations of the equipment. Most often, these actual clerks, even managers, are not the same people who were trained in the proper use of the display cases—a common event when the high turnover of supermarket help is recognized.

An example: One manufacturer received complaints from a group of stores in a single chain that the frozen food cases were not holding the product to temperature on weekends. By "remote diagnosis" the manufacturer suggested that the cases were being overloaded, but the reply was (and this is the standard reply to all manufacturers' concern about peak period overloading of their fixtures) "The cases are only loaded above the correct level for a few minutes, because customer traffic is so heavy and purchases are high."

The manufacturer then conducted a store by store investigation, staying with the stores the two or three days necessary to get the picture of what was happening. Their findings: Under an apparently standardized procedure, the stock clerks in the several stores would bring out the goods from the storeroom for all departments, refrigerated or not, place them in the aisles near their proper display area, then proceed to place all this stock on the shelves or in the fixtures.

In many cases, the frozen food was brought out during the first part of this procedure, left in the aisle for as long as three hours while other stock was being brought from the storeroom, while other errands were being run. In a few cases, when the actual placing of the goods upon the shelves began, the frozen foods were *not* the first to be handled!

Cases Were Being Asked To Pull Down Temperatures

Measurement of product temperatures and the actual appearance of frozen juices, for example, clearly showed that the cases were being asked to *pull down* rather than *hold* temperature as they are designed to do. Further, they were being made to pull down an admitted overload of product.

Another case: a group of stores in one city were having difficulty with soft ice cream in the display cases of a single manufacturer. (Later investigation revealed the difficulty also existed in other manufacturers' fixtures.) In this instance, the manufacturer put one man on each of two trucks handling the delivery of ice cream from the supplier to the several stores. Armed with recording thermometers, the men were able to show that the product temperature rose to and above the softening point as the day progressed. The last deliveries were of almost dripping ice cream.

This kind of technical follow-up on a complaint is appreciated by chains and its lack is greatly bemoaned. Elsewhere in this series it is mentioned that supermarket operators want a manufacturer's engineer or serviceman on the job during installation and available on short notice during the first 30 days after the store's opening, a period which most consider necessary to shake down the refrigeration equipment even though it has been operating with normal product loads for days prior to the store's opening.

Too often, the market operators complain, this company representative is a salesman untrained in any of the technical or engineering aspects of the equipment or its installation and maintenance.

Recognizing this as a legitimate complaint, at least one manufacturer has a formal program going to upgrade the technical competency of its sales force. Another longs for the days "when all salespeople carried a simple tool kit and could make repairs like adjusting a door screw for preventing frost inside a freezer, glazing sweating glass doors, and the like."

One of the easiest ways for a manufacturer to get *off* an approved supplier list is chronically to fail on service to the account. Or to ignore repeated suggestions concerning a specific problem caused by its equipment.

A midwest chain was having repeated difficulty with lighting failures on the superstructures of a line of dairy cases. But replacement and repair were only possible from the rear of the case, making such maintenance extremely costly after the units had been installed against a wall. In fact, correction of such electrical difficulties was impossible without disconnecting the refrigeration. Further, the wiring was not meeting local code requirements.

After trying unsuccessfully to get the manufacturer to change its construction, the chain proceeded to rewire each case itself before installation—at an average cost of $50 per case, which they attempted to recoup from the manufacturer. At the time of the interview with the NEWS, the chain had received no satisfaction from the manufacturer and the manufacturer was removed from the approved supplier list.

TECH CENTER has been omitted from this issue due to space limitations. It will resume next week.

Jarrow experienced gasket engineers have worked closely with manufacturers for many years, providing the finest in gaskets for every type of insulation application for refrigerating and air conditioning. If you have a problem that challenges solution, Jarrow development engineers will cooperate with you in producing the very product you need. There is no cost or obligation for this service. *Send us your blueprints.*

Jarrow Gaskets, to your exact specifications, are available in all these materials or combinations:

Jarene-B—the new, tough, flexible vinyl plastic extrusion that can't crack, check, or oxidize—grease resistant—long wearing—easily cleaned!

Rubber—in any extruded form—as a rubberized fabric—or sponge rubber, which is ideal as a combination with either plastics, rubber extrusions or fabrics.

Others include Neoprene Fabric and Waterproof Cotton Webbing.

SEND TODAY FOR JARROW CATALOG C-301a, containing the latest in gasket developments, designed to save you valuable assembly time and cut your production costs. You'll want to keep this valuable guide handy constantly. Write:

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. . . nowadays
the **pick is Paragon**
for commercial defrosting

PARAGON'S 8000 SERIES

Defrost cycles can be scheduled every 2 hours . . . for any length from 2 to 55 minutes with Paragon's precision-manufactured 8000 Series time control.

And this versatile mechanism is accurate to within 1 minute of setting. ON-OFF operation can be quickly and easily checked. Power is supplied by a heavy-duty, 4-watt, synchronous motor. The unit is contained in a heavy-steel, long-life case. Installation is simple. For accuracy and versatility in control of defrost cycles, the 8000 Series is unmatched. It's a modern time control in every sense of the word.

• • •

PARAGON'S 8100 SERIES

Controls length of defrost cycle automatically. Cycle is terminated when built-in solenoid is activated by either remote thermostat or pressure switch. Adjustable fail-safe tripper provides 100% protection. Always trouble-free.

96% of the manufacturers making automatic defrosting refrigerators for food stores specify Paragon defrosters as standard equipment

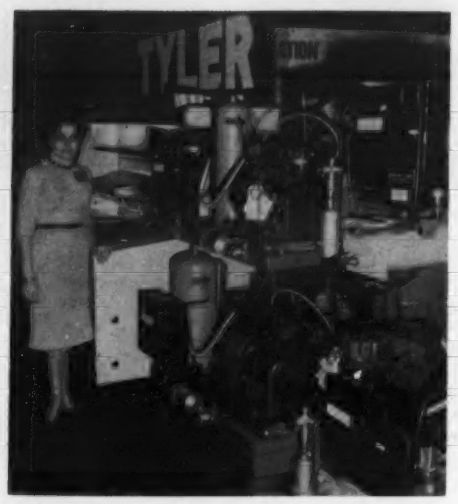
For further details on Paragon's complete line of time controls for commercial defrosting see your wholesaler. Or write Dept. 1687.

TIME IS MONEY — CONTROL IT WITH PARAGON

PARAGON ELECTRIC COMPANY

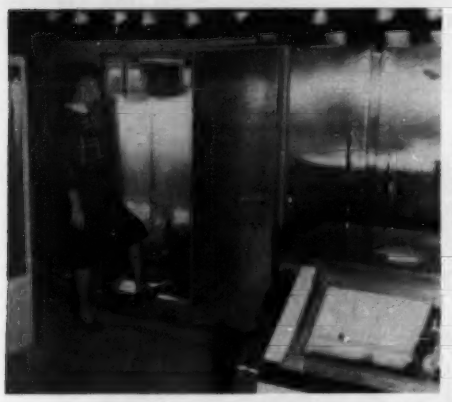
1687 TWELFTH STREET • TWO RIVERS, WISCONSIN

NEW UNIVERSAL FROZEN FOOD cabinet thermometer and "Master-Mite" solenoid valves, shown by Marsh Instrument Co., are demonstrated by Bonnie-Lou Scott.



"TWOSOME" CONDENSING UNIT rack for supermarket installations, wired complete with defrost and pressure controls, was spotlighted in Tyler Refrigeration Corp. exhibit. Emily Smith poses with the assembly to demonstrate its size.

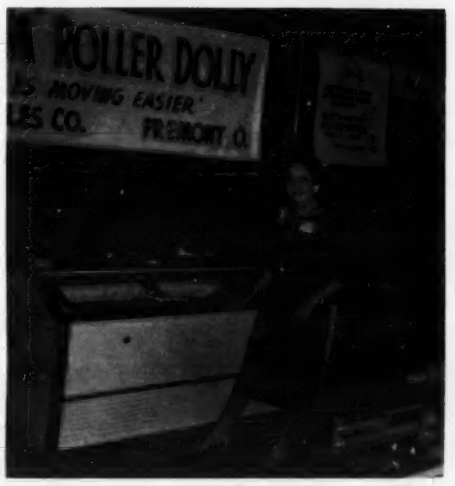
NEW TENNEY "HUSTLER" all-aluminum unit cooler for reach-in refrigerators wins big smiles from Mary Burns.



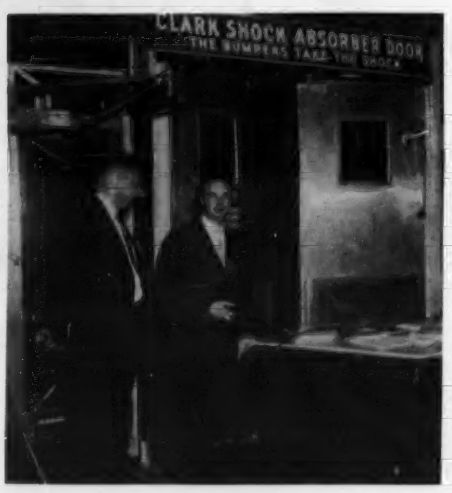
METAL-CLAD SELF-CONTAINED 90-cu. ft. walk-in refrigerator, with hang-on condensing unit, was featured in display of Fogel Refrigerator Co.

What Was New In Atlantic City

On this page the NEWS presents products shown at the Atlantic City Exposition that will be of special interest to those in the commercial refrigeration field. On several following pages other items that were shown at the 11th Air Conditioniing & Refrigeration Exposition are pictured. Nine pages of Exposition pictures were published in the Nov. 16 issue and others will appear in a later issue.



ROLLER DOLLY for moving heavy cabinets, crated or uncrated, is offered by Haaser Sales Co., Fremont, Ohio. Dolly at which lady's toe points will handle a 4-ton load.



BUMPER TAKES THE SHOCK for new Clark Shock Absorber Door, Edward A. Wiegleb, salesman for Clark Door Co. (r.) demonstrates for Wilber S. Hoyt of Lecompte, La.

ACCESSORIES FOR refrigeration installations and tools for refrigeration servicemen, including seal ring pullers, "Liquid Eye" indicators, and liquid dehydrants, are demonstrated by Alex Kutchik of Allin Mfg. Co.

JUNIOR MODEL hermetic compressor opener is shown by Frank Lowitz, president of Frankell Mfg. Co. to Marie McCullough.

Many of the photographs appearing on these pages were taken by Austin Jones, Kerotest Mfg. Co., who has been photographing industry shows and other industry events since the 1930's.

NEW LA CROSSE BOTTLE COOLER

UP TO 45% GREATER CAPACITY
UP TO 45% GREATER CAPACITY
UP TO 45% GREATER CAPACITY

LA CROSSE BOTTLE COOLER

Always the leader . . . and now the New La Crosse Bottle Cooler steps further in front with trim, modern design *and greater capacity. The 6'6 model, with coil only, holds 40 cases* . . . other models from 4'6" to 10'6" hold from 26 cases to 66 cases. Get more capacity for the money . . . specify La Crosse Bottle Coolers.

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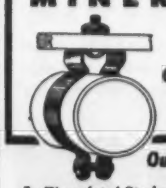

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. . . Messenger

Outserves! Outlasts!

In Zinc-plated Steel and Everdur. All sizes. Insulating bushings available. Top quality. Permit quick wiring. *Send for literature.*

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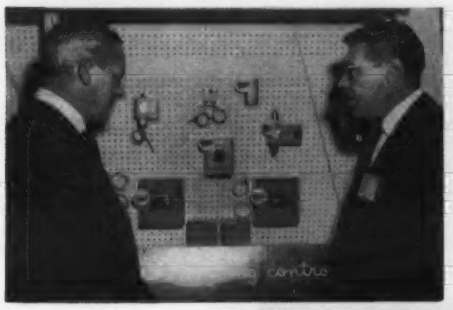
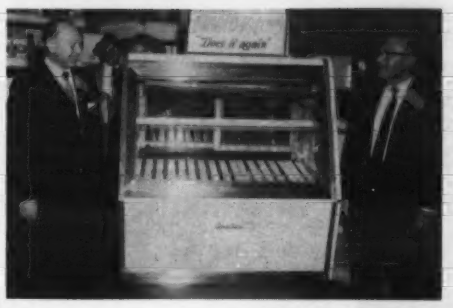
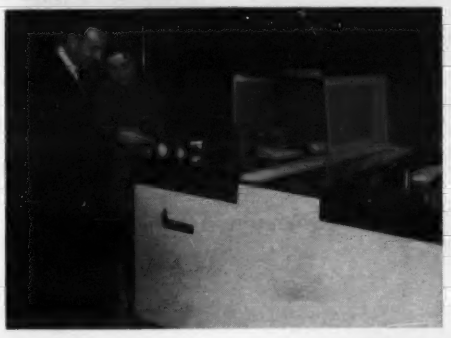


VARIETY OF NEW air conditioning control panels offered by Penn Controls, Inc. are delineated by H. M. Carnahan, vice president and director of sales for Penn (l.), to Wilhelm L. Goeckel of Buffalo. On the panel are system, fan, and cooling centers, heating-cooling changeover switch, and differential pressure control.

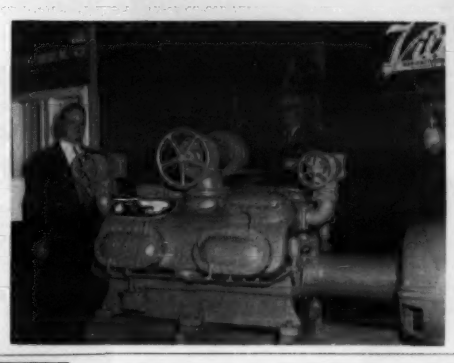


CONTINUOUS DOUBLE-DUTY butcher case is pride of the Frigid Igloo Mfg. Corp. booth. Robert L. Edelson, president (l.) and S. James Krakow, executive vice president, beam at 4-ft. section on display.

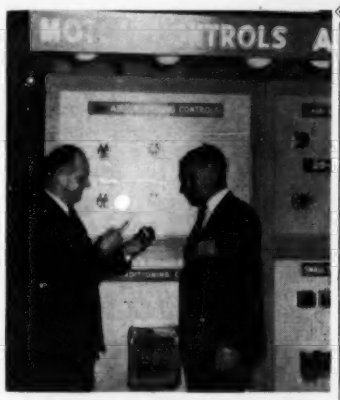
BACHARACH'S FIFTIETH ANNIVERSARY Gold Ribbon thermometer featuring rubber cushioning and new friction-fit rubber top cap is shown to Tom Larsen of Norfolk, Va. (l.), by John Smith, sales supervisor for Bacharach Industrial Instrument Co.



BULK MILK COOLER of the ice bank type for dairy farm operators has drop-in refrigeration unit. Emily Smith points to pump timer and control panel in this Wilson Refrigeration, Inc. model.



200-HP. 16-cylinder refrigeration compressor in compact design, with special safety head and valve construction, is topic of discussion between A. O. Vogel of Vilter Mfg. Co. and Clifford Holske, engineer from New York City.



POINTING OUT FEATURES OF new Type B, 25 and 40-amp contactors in 550-volt ratings for air conditioners, George Heiden, sales director of the Industrial Control Div., Arrow-Hart & Hegeman Electric Co. (l.), convinces a show visitor.

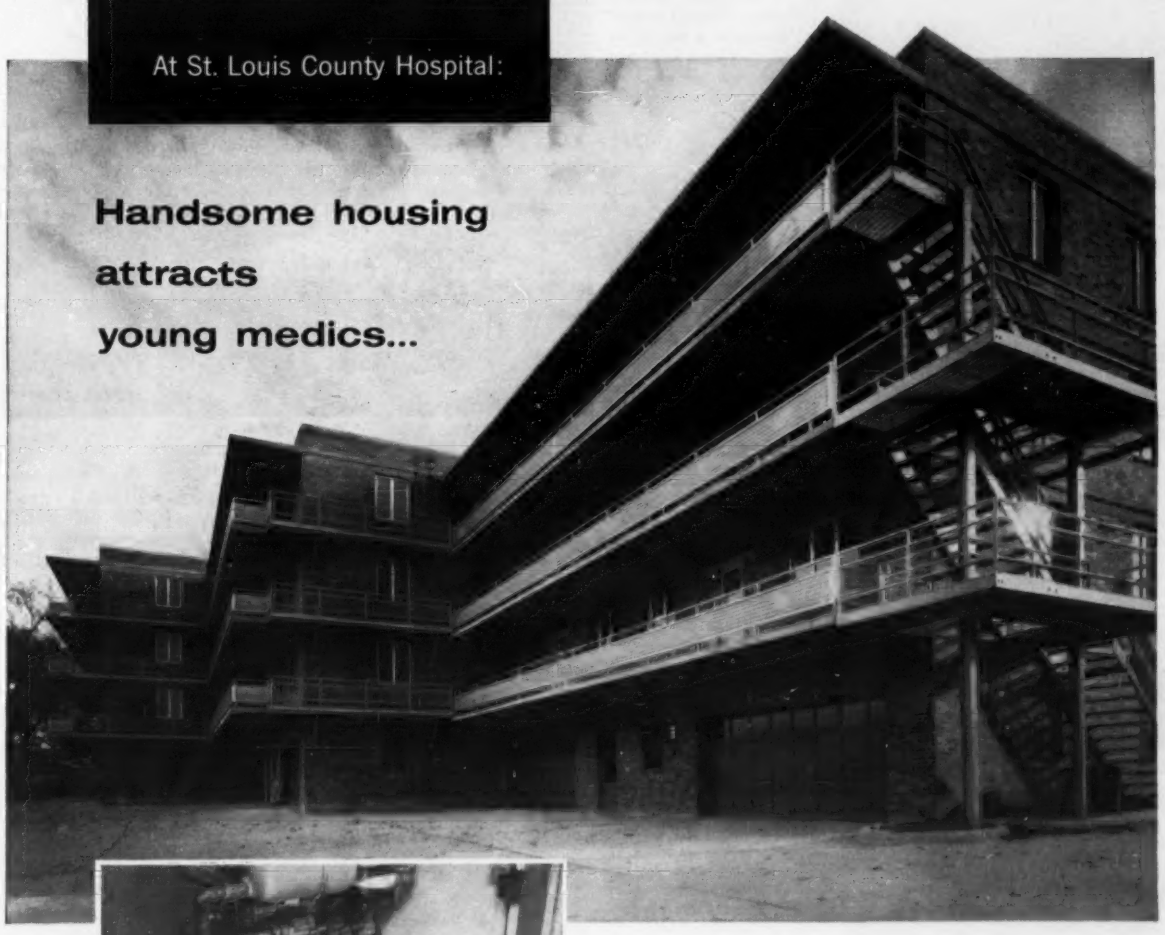
NEW APPLICATION CAN for Highside Chemical Co.'s "Leak Lock" joint sealer gets the once over from A. R. Shelby and Barbara Feuker.

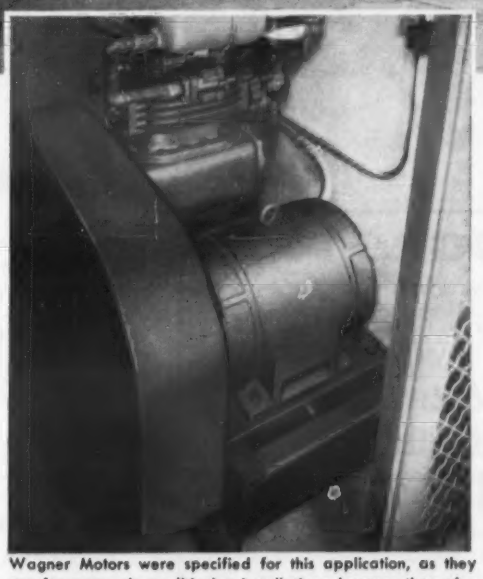
TUBING IN VARIETY of metals, sizes, and shapes were exhibited by United Wire & Supply Corp., and one sample gets the once-over from Mr. and Mrs. Si Williams, Cleveland.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

At St. Louis County Hospital:

Handsome housing attracts young medics...





Wagner Motors were specified for this application, as they are for many air conditioning installations, because they give smooth, dependable power.

Designed to attract a larger number of medical school graduates to the St. Louis County Hospital intern program, this striking 18 family apartment building offers comfortable rent-free housing to interns, resident physicians and their families.

This new structure is actually three buildings, each with a central air conditioning unit. The compressors are driven by Wagner polyphase motors. These power-packed motors start compressor loads smoothly and easily, are small in size, light in weight—easier to install and maintain.

Whatever your motor requirements may be, Wagner can supply you a standard motor or build a special motor to fit your need. Constant research and development have kept Wagner up front in electric motor design for more than 65 years—made the name Wagner one you can trust in choosing motors for your plant or for your product. Call your nearby Wagner field engineer for an engineering analysis of your next motor application. There are Wagner branches in 32 principal cities.

WM59-3

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SERVING 2 GREAT GROWTH INDUSTRIES . . . *ELECTRICAL . . . AUTOMOTIVE*

What Was New In Atlantic City

NEW SPLIT "MARK" truck refrigeration system with skirt mounted motor-compressor unit and over-the-cab condenser unit is explained by Dan Pillow, sales and service manager of the Kold-Hold Div., Tranter Mfg. Co. (l.) to R. C. Sealy of Lafayette, La. (center) while James W. McGuffey, Kold-Hold sales engineer, looks on.

MARLO'S NEW "EVEN-TEMP" coil featuring intermingled steam distribution to give even air temperatures from 100% to 10% of capacity is shown by Ken Wicks, regional manager in Philadelphia for Marlo Coil Co.

NEW "ECLIPSE" compound refrigerating compressor with nine cylinders for two-stage work with ammonia or Refrigerant-22 is shown to Marc J. Vischner of the Allegheny Ballistics Laboratory, Hercules Powder Co., Cumberland, Md. (l.) by David J. Wood, assistant sales manager for the Frick Co.

PORTABLE CHARGING and dehydrating station for refrigerating systems is demonstrated by Emmett Williams (center) head of Airserco Mfg. Co., Inc. which makes the device which permits a 25-lb. charge without reloading.

AIR CONDITIONING PANEL with push-button thermostat (upper center) for 6-ton residential air conditioning system is indicated by Frank Crawford, technical adviser in the New York region for White-Rodgers Co.

EMPHASIZING QUIET OPERATION of new 10-hp. motor running at 1,800 r.p.m. due to resilient mounting, L. C. Dobrunz, sales promotion manager for Wagner Electric Corp. bends an ear while W. L. Rohm (l.) and M. H. Nelson, assistant sales manager of the electrical division, look on.

STOKES COMPOUND HIGH vacuum pump for fast dehydration of sealed systems is studied by H. H. Brehouse, production specialist (l.) and W. J. Weaver, manager of refrigeration and air conditioning equipment for F. J. Stokes Corp.

NEW FLUID CHILLER package incorporating new Worthington "V-Line" condensing unit is inspected by Walter Lesco, Jack McDermott, and Leo Winter, all of Worthington.

NEW BELL & GOSSETT 40-ton condensing unit shares with Susan Gilbert the attention of M. H. Hofmeister, manager of the air conditioning and refrigeration division, Bell & Gossett Co.

ALL 232 PAGES ARE YOURS FREE

The famous Harry Alter *Dependabook* is really the standard buying guide of the trade. It's the most complete refrigeration and air conditioning supply catalog in the whole industry. It is especially designed for your convenience. (Even has your net cost on every item to save time in pricing a job.) For the newest products and latest prices always use the *Dependabook*.

We're Real Specialists in

REFRIGERATION • AIR CONDITIONING • ELECTRIC MOTORS

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SAVE MONEY, time and effort by ordering from our new *Dependabook*, the most complete catalog of all. 232 pages. Over 10,000 items carried in stock. *Wholesale only.* Your orders filled really fast by mail, or they can be picked up at one of our six big warehouses.

Write on your letterhead for the 1959 DEPENDABOOK...
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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

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Thinking of—

- **changing territories**
- **expanding your territory**
- **taking on new lines—**

Check the
CLASSIFIED ADS

Your opportunity may be there.

here's the inside story on the KEROTEST

NO. R224
DIAPHRAGM PACKLESS
LINE VALVE

FOR ALL TYPES OF REFRIGERATION AND AIR-CONDITIONING SYSTEMS

The inside story as you can see above is built-in quality and sturdy construction. Outstanding for high vacuum service, liquified petroleum gases, gasoline, instrument control panels, oxygen (degreased), compressed air, water, nitrogen and refrigeration boards. Full flow, forged brass body, beryllium copper and stainless steel diaphragms are a few of many features. Available in sizes ¼" through ⅜" flare and solder sizes. See your Kerotest wholesaler.

Ask for Model No. R224

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NWAHACA Convention Program--

(Concluded from Page 1, Col. 3)

lights will be workshop panel on electric heat Monday afternoon, Nov. 30 and a session on management Wednesday morning, Dec. 2. Gene Flack of Sunshine Biscuits will speak at the Wednesday luncheon.

First day of the NWAHACA convention, Wednesday, will be devoted to reports on association achievements and progress.

On Thursday morning will come the report on the development of the Silver Shield program and the discussion on electric heat.

John Norris, president of Lennox Industries, Inc., will present the viewpoint of the ducted air heating and cooling industry on electric heat.

He will be followed by Edwin O. George, vice president of the Detroit Edison Co. and chairman of the sales division executive committee of the Edison Electric Institute.

George will describe the plans and attitude of the electric industry with respect to electric heating.

Convention business will officially begin Wednesday afternoon. Tom Byrd, president, will describe NWAHACA's accomplishments during 1959.

Research activities and findings will be summarized by Keith T. Davis, chairman of the association's Research Advisory Council, and Edward J. Brown, head of the NWAHACA research staff at the University of Illinois.

Prof. Lorin G. Miller, chairman of the Application Engineering Council, will report on educational activities and accomplishments.

Marketing impact and activities of the association will be covered in a report by Robert V. Main, chairman of the Marketing Council.

Thursday afternoon's session will be divided into two simultaneous programs. One will feature subjects of interest to manufacturers and wholesalers and the other subjects of interest to dealer-contractors.

At the manufacturer-wholesaler session, Dr. George C. Smith, vice president of F. W. Dodge Corp., will offer residential construction forecasts.

Carl T. Arlt, assistant vice president of the Federal Reserve Bank of St. Louis, will analyze money market trends, credit, and availability.

Curtis C. Williams, Jr., NWAHACA general counsel, will cover taxation laws and their effect on business.

William H. Ayers, Congressman from Ohio, will speak on labor legislation. He is a member of the House education and labor committee.

Theme of the dealer-contractor session will be "How To Obtain Competent Sales Personnel." Recruiting new salesmen will be covered by a representative of Trundle Consultants, Inc., Cleveland specialists in business management.

Training the new salesman will be discussed by Newt T. Hess, a member of the dealer training committee of the association's Marketing Council.

Compensating the new salesmen is the subject of Ray Horan, manager of Janitrol's Institute of Dealer Management Training.

Theme of the Friday morning session will be "How to Prepare for Profitable Sales."

Mechanical Engineer Gary J. Baker, assistant director of technical services of NWAHACA will discuss "How To Make the Preliminary Survey."

William L. Dulle, vice president of E. E. Souther Iron Co., St. Louis, will describe "Preparation of Cost Estimates."

J. P. Field, vice president and manager of the Light Sheet Metal Div., the Williamson Co., will tell "How To Sell the Quality System."

Friday afternoon, Herbert T. Gilkey, director of technical services for NWAHACA, will discuss application engineering of the system. Other speakers are to be announced.

ASHRAE Meeting--

(Concluded from Page 1, Col. 4)

will be in the Baker hotel. The exposition will be held in Memorial Auditorium, four blocks from the hotel. Show hours are noon to 10 p.m. daily, Monday through Thursday.

The meeting program has been arranged to include forum sessions and numerous special features. All scheduled sessions will be held during the mornings to permit attendance at the exposition in the afternoons and evenings.

Technical sessions will be on absorption refrigeration, heating, thermoelectric refrigeration, sound, and heat transfer. Conferences will cover use of plastics in domestic refrigerators; commercial refrigeration; fenestration; window air conditioners; and auto air conditioning.

C. Rollins Gardner of Fort Worth is in charge of meeting arrangements, assisted by a committee on arrangements of the Dallas Chapter, host to the meeting.

The exposition, national in scope and industry-wide in coverage, includes heating, refrigerating, air conditioning, and ventilating. It is under the management of the International Exposition Co., 480 Lexington Ave., New York City 17.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Don't waste time cleaning Ice Machines...

USE CALGON® ICE MACHINE TREATMENT

A slowly soluble phosphate specially designed to inhibit scale in ice machines. Get it from your Refrigeration Wholesaler today.

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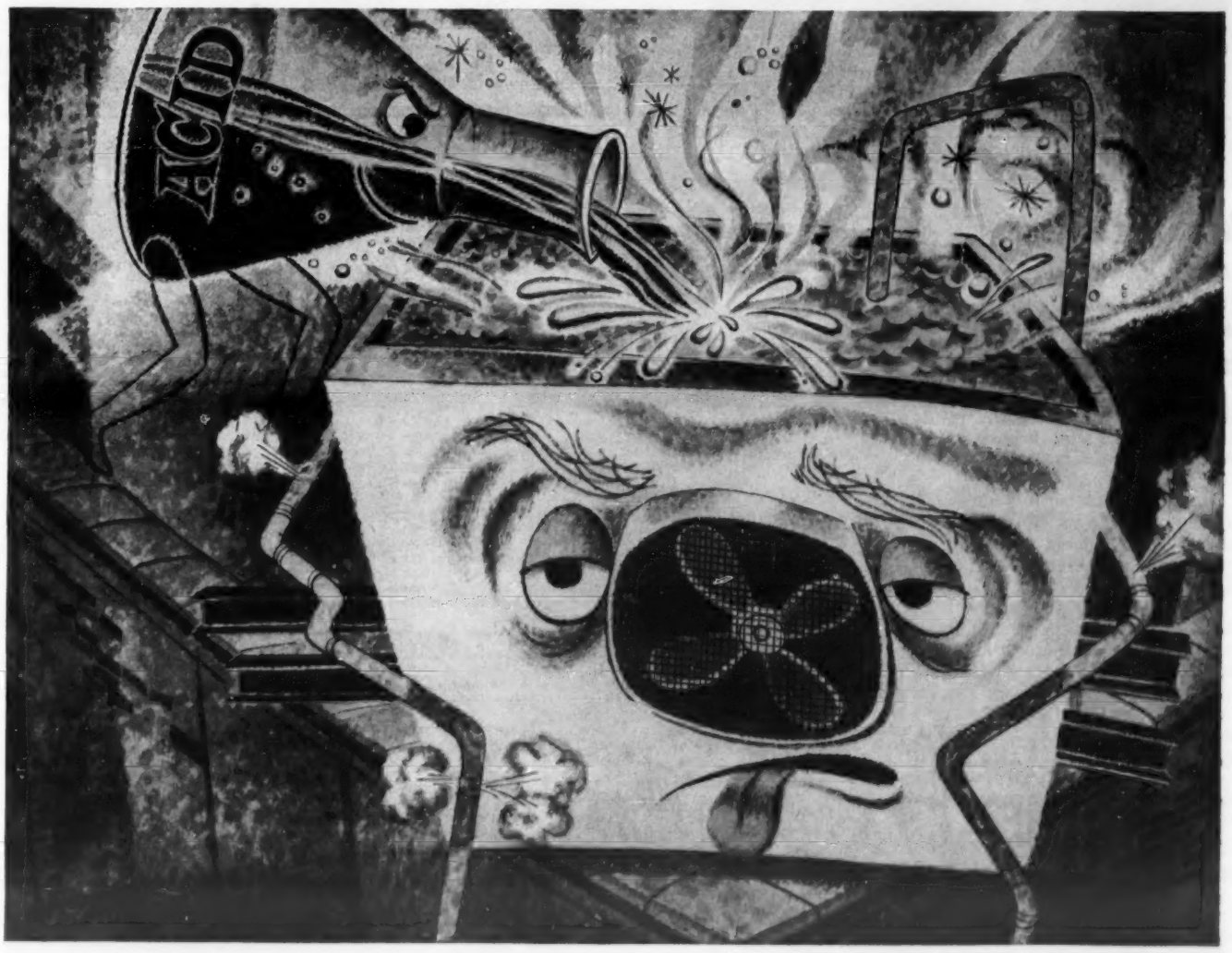


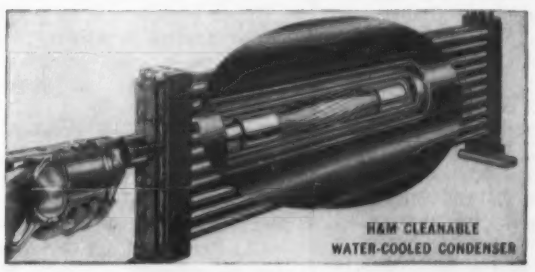
BEFORE YOU BUY, THINK:

Will acid upset your cooling water system?

NOT if your water-cooled refrigeration condensers are cleanable mechanically like Halstead & Mitchell's

Scale and sludge deposits seriously reduce heat transfer in condensers and affect system performance unless removed. Deposits can be cleaned from H&M water-cooled condensers safely with a simple, mechanical tool—faster, more completely and at less cost! No need to risk acid damage to condensers, cooling towers and pumps.

Halstead & Mitchell condensers have brass headers which are easily and quickly removed for cleaning. Seamless copper tubing is arranged in double-tube design for true, positive counterflow heat exchange. U/L approved, condensers are readily set up in racks with multiple condensing units. Ask your local wholesaler for complete information, or write to Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pennsylvania.



Water-Cooled Condensers · Cooling Towers · Air-Cooled Condensers · Finned Coil Products

HM Halstead & Mitchell

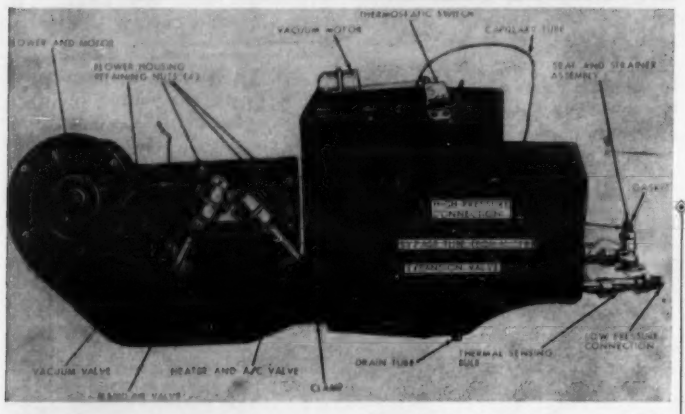
Servicing Automobile Air Conditioners

(Vol. 4 — 1959 Models)

BY C. DALE MERICLE

FIG. 3—Control panel of 1959 Climate Dial system.

FIG. 4 shows location of such components as thermostatic switch in this engine compartment view of Climate Dial evaporator assembly.



MERCURY (2)

M-E-L Div.
Ford Motor Co.
Dearborn, Mich.

Climate Dial Controls

Control panel of the built-in Climate Dial unit is on the instrument panel and is part of the heater control arrangement. (See Fig. 3.)

A rotating dial permits choice of cooling, heating, outside air intake, or windshield defrosting by controlling various vacuum motors.

Center knob of the dial controls blower speed for both heating and cooling. Pulling this knob half-way out gives low-speed blower operation; pulling the knob out all the way operates blower at high speed.

Turning the dial to "cooling" position results in both right and left outside air intakes being closed, recirculated air intake being open, air being directed through evaporator instead of heater, and thermostat being positioned by vacuum motor (Fig. 4) to energize the magnetic clutch and thus operate the compressor.

System is supposed to maintain a discharge air temperature over a range from 45° to 80° as the control dial (and thus thermostat) setting is changed from "low" to "high," depending to some extent, of course, on outdoor conditions.

Two levers on the "spot cooler" permit adjustment of air flow at the two outlets.

Color code of the vacuum motors and lines is as follows:

Right vent motor: purple.

Left vent motor: green.

Defroster damper motor: blue.

Blower damper motor: brown.

Thermostat control motor: yellow.

Air conditioning damper door: tee connector to right vent motor hose (purple).

Comfort Cool Controls

Controls of the 1959 Mercury Comfort Cool under-dash unit (Figs. 2 and 5) are mounted at the left end of the evaporator case.

Upper knob is a three-position blower control permitting selection of low or high speed blower operation. There is also an "off" position.

Lower knob is rotated to change setting of thermostat that cycles the magnetic clutch and thus controls compressor operation.

The Comfort Cool under-dash unit is entirely separate from the car heating system.

(To Be Continued)

TOP SECRET REVEALED!

The closely guarded secret of how hundreds of refrigerator and air conditioning service and repair men find the extra time to take on more jobs — take home a bigger pay envelope, has been revealed. It's Frankell's Hermetic Compressor Opener — a fully proven, precision engineered unit that requires only 2 minutes of a man's time to open any shape compressor (up to 20" in dia.) — regardless of the position of the weld. It's easy as A,B,C, — anyone can do it . . . no special fixtures or jigs required . . . and just one hermetic job a week pays for this time saving, money making wonder. Remember, when you repair a hermetic compressor — the profits are big.

$695 NET F.O.B. N.Y.

Ask about our low cost rental plan.

FRANKELL MFG. CO., INC.,
803 Newark Ave., Jersey City 6, N. J.

WRITE DEPT. A, for complete information.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

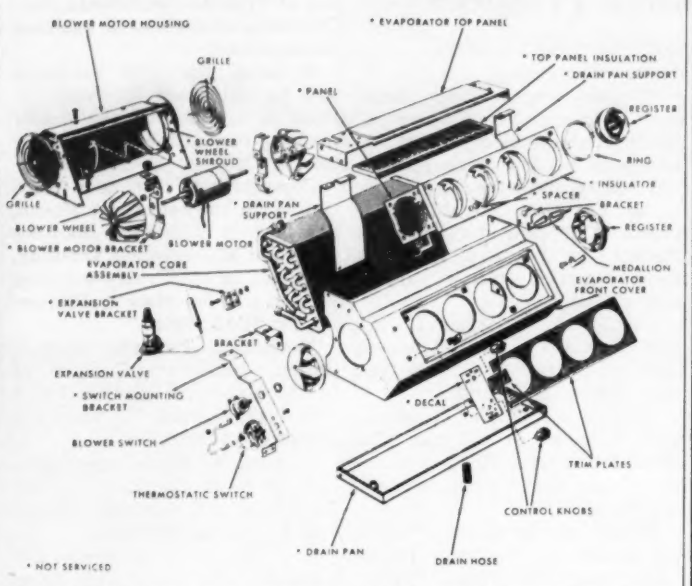


FIG. 5—Exploded view shows components of 1959 Comfort Cool evaporator assembly.

SALES ENGINEER

for Central System Air Conditioning

Sales Engineer with experience in Central System Air Conditioning and Heat Pumps wanted. You will be trained at the factory, then travel to work with Regional Sales Managers, establishing distributors, dealers, and special projects. Experience in engineering and application desired. Send full particulars of background, experience, photograph and salary expected to

S. J. SEIBERT, Manager,
Air Conditioning Dept.

AMANA REFRIGERATION, INC.
AMANA, IOWA

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RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

MANUFACTURERS AGENT — Desires two extra lines — 28 years' experience commercial refrigeration, residential and commercial air conditioning and heating. Covering Iowa and adjoining states. Write BOX A6397, Air Conditioning, Heating & Refrigeration News.

SALES OR Service: Heating and air conditioning technician graduate, experienced in sales and application of residential and commercial heating and air conditioning equipment. Refrigeration Fitter Journeyman with experience in residential and commercial air conditioning and heating, including heat pumps. Age 30, married. BOX A6401, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

MANUFACTURERS' REPRESENTATIVES for nationally advertised and distributed line of ice storage bins for all makes of automatic ice machines. Unusual opportunity for representatives calling on distributors of automatic ice machines for a repeat item that is competitively priced and expertly constructed of the finest materials. ENVIRONMENTAL EQUIPMENT CORP., 369 Linden Street, Brooklyn 27, New York.

AIR CONDITIONING and heating service man. Knowledge of control wiring, air distribution, heating and refrigeration cycle of water cooled, air cooled and heat pump equipment. We install and service all makes of heating and air conditioning equipment. Permanent employment for right man. Send qualifications to LA BREA HEATING & AIR CONDITIONING COMPANY, P. O. Box 922, Inglewood 3, California.

SHELVING MANUFACTURER wants salesmen with knowledge of grocery trade who will travel, and relocate if necessary in Texas, Tennessee, Ohio or Washington state territories. This is one of the highest paid jobs in the industry. Most complete line available, acceptance and sales growth tops in industry. Send resume of previous connections and earnings with first letter. LOZIER-LINE MANUFACTURING CO., 4402 Florence Blvd., Omaha, Nebraska.

SALESMEN ENJOY the wonderful Florida climate and make money at the same time. Also, make $10,000 to $12,000 per year proven figures. Have you ever sold automatic ice machines, or soft drink dispensers, or soft ice cream and milk shake machines, or restaurant equipment? Retail. We handle and arrange all installment credit, and make all collections. Are you past 40 years of age? Can you prove the above and give satisfactory character references? This is a permanent connection with a well-established firm with well-known lines and well-financed. Write giving personal data, experience, references and photo. WATERS EQUIPMENT CO., INC., P. O. Box 10013, Tampa 9, Florida.

ELECTRICAL AND mechanical design engineers, with two to three years' experience in refrigerator cabinet design or electric motor design, are needed immediately in the Columbus, Ohio Plant. Four new products to be manufactured at this location. For additional information write to: WESTINGHOUSE ELECTRIC CORPORATION, 300 Phillippi Road, Columbus, Ohio, attention J. V. Springer.

EXPERIENCED SERVICE manager to set up and run service department for commercial, industrial air conditioning, refrigeration and heating. Excellent opportunity for a qualified man. This has unlimited potential earnings. We cover the greater Chicago area. Replies must give past experience, education, age, former employers and all other pertinent information. BOX A6385, Air Conditioning, Heating & Refrigeration News.

WANTED BY central California refrigeration and air conditioning contractor of long standing, journeymen mechanics experienced in market refrigeration, air conditioning, some heating. Send resumes to BOX A6391, Air Conditioning, Heating & Refrigeration News.

A DISTRICT supervisor for the Minneapolis-St. Paul area by manufacturer of commercial refrigerators. Preferably he is selling to food chains, super markets, wholesale grocers and refrigeration dealers. He may be presently a refrigeration distributor or employed by a manufacturer, but desirous of improving his situation by locating elsewhere or just anxious to cash in on experience and make more money for himself. If you are the man, send a brief resume of experience to BOX A6392, Air Conditioning, Heating & Refrigeration News.

HEATING AND air conditioning engineer wanted to take charge of established fast-growing heating and air conditioning business in Florida. Excellent opportunity for qualified man. Earning potential unlimited. All replies, give resume of experiences, references, recent photo and state salary expected. BOX A6398, Air Conditioning, Heating & Refrigeration News.

MANAGER OF air conditioning engineering to assume management of product design and development of well established eastern manufacturer. Products include packaged equipment, chillers, fan coil units, heat pumps, air handling equipment and some commercial refrigeration. Must have proven technical and administrative ability. Send resume of qualifications to BOX A6399, Air Conditioning, Heating & Refrigeration News.

PRODUCT DESIGN Engineer—To develop, design and conduct cost reduction programs on a complete line of air conditioning products. Products include assemblies from 2 ton through 100 ton including chillers—also, air handling equipment, evaporative condensers and air cooled condensers. Excellent opportunity for rapid advancement for qualified man. Company located in East. Replies will be held in strict confidence. BOX A6400, Air Conditioning, Heating & Refrigeration News.

FIELD SERVICE Engineer—Our company is growing and expanding. We need and have opportunity for a capable, experienced, refrigeration service man, under 40 years to handle field service engineer responsibilities in limited territories in New England and Middle Atlantic States. Must be free to travel. Food store experience preferred. Willing to move at our expense, if necessary. High school (or better) education. Give full details, with five references, and send photograph with first letter. Applications without photographs will not be considered. Salary, expenses, insurance, welfare, and other benefits. BOX A6402, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

SURPLUS PARTS wanted. Pay cash. Compressors, valve plates, and parts for all makes. New or used and repairable. Brunner, Copeland, Carrier, Copelametic, General Electric, Universal and others. Send full description as to Model No., Part No., Horse-power, etc. UNITED REFRIGERATION CORPORATION, 514 W. 12th St., Los Angeles 15, Calif.

EQUIPMENT FOR SALE

AJAX ICE Machine parts—We have purchased the inventory of parts, plus all tooling, for the Ajax Electric Iceman, formerly manufactured by Servel, Inc. We are now furnishing replacement parts, for all models including Ajax Pebble Machine. Catalog & prices available. AJAX EQUIPMENT CO., INC., 73 Pine Street, Montclair, N. J.

SEALED UNITS Re-manufactured equal to new all makes domestic and commercial. One year guarantee against defective workmanship and material. Send for free terminal color guide and dome exchange chart. Price list included. Some territory still open for distributors. BONDED HERMETIC RE-MANUFACTURING CO., INC., 608 Coney Island Ave., Brooklyn, N. Y., GEdney 5-8680.

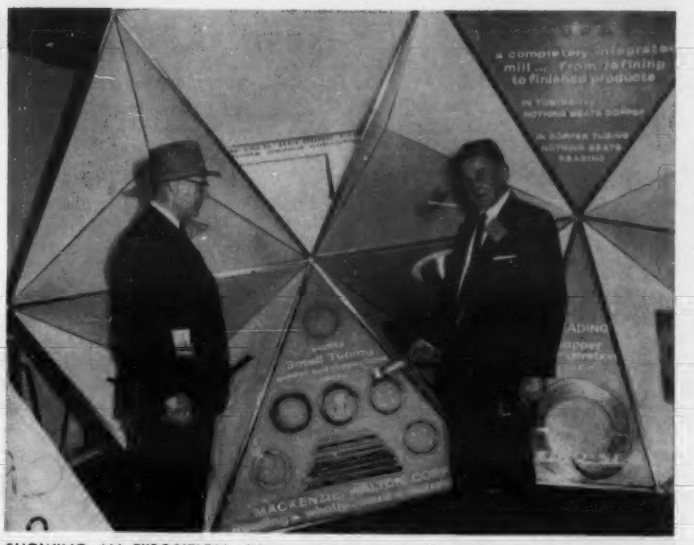
PATENTS FOR sale or royalty basis. Household carbonator. Generic patent No. 2,647,734. Automatic soda maker without use of electricity. Can be made into packet weighing 12 lbs. Beverage dispensing mechanism. Patent No. 2,674,264. Dispenses a mixed drink or clear soda without tincture. Syrup dispensing mechanism. Patent No. 2,708,533. Delivers a constant syrup flow at any head for a proper mixed drink. Write A. J. NICHOLAS, P. O. Box 102, Suffield, Conn.

FREON AUTOMATIC charging board manufactured by Production Control Units Co. Copper piping, charging attachment, Lapp Pulsafeeder Pump—drum rack, Kinney Pump—oil diffusion pump—Hilco Model 25X oil reclaimer. Equipment will be sold as a group or individual pieces. Blacosolv Degreaser including still—Model 1005. SCHREIBER ENGINEERING CO., INC., 8681 Otis Street, South Gate, California.

FOR SALE: Air conditioning 2 hp. hermetic compressors—Model HB200 230 V. 60 cy. 1/phase F-23. Complete with electrical "Power Pack". $79.00 ea. F.O.B. Chicago, Illinois. WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

What Was New At the 11th Exposition

JACKES-EVANS' new three-way solenoid valve for flow control of hot or chilled water with fan coil units is demonstrated for Frank Hawk of Red Bank, N. J. (l.) by John H. Marling, sales manager for Jackes-Evans Mfg. Co.



SHOWING AN EXPOSITION visitor some of the small tubing made of copper and copper base alloys by a subsidiary of Reading Tube Corp., is J. F. Murray, sales manager, (r.).

NEW COLDIN GOLDEN DOOR low temperature display and storage case with Formica top is displayed by Herman Krause, president of Coldin Cabinet Co. (l.) and Leon Zuck, manager of the refrigeration division.

NEW MULLION COOLER used in reach-in boxes, backbars, etc., is displayed by Peerless of America. Dorothy La Rocca looks over the exhibit.

LOW COST PERMANENT washable air filter with electrostatic action is held by K. M. Fournier, sales manager for Skuttle Mfg. Co. (l.) and V. E. Devine, Skuttle representative in the Philadelphia area.

Send this LABEL from any 'SUPCO 88' Bottle

We will send you

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REPAIR INFO KIT

- Relay Diagrams
- Sealed Unit Terminal Connections
- Diagnosis Chart
- Capillary Chart
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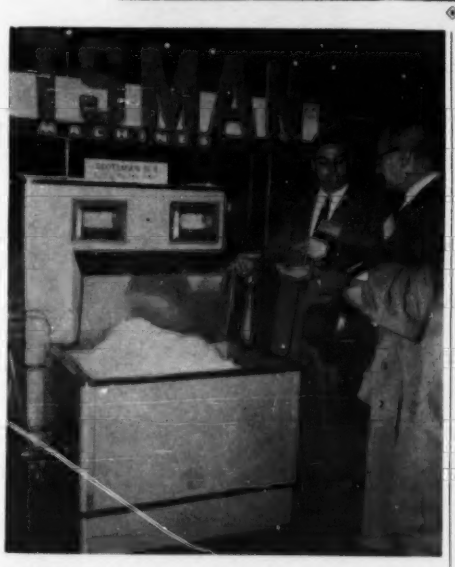
A BUNDLE of information that took years to compile is yours, FREE with your first purchase of "Supco 88" — THE MIRACLE OIL ADDITIVE FOR REFRIGERATION USE!

SEALED UNIT PARTS CO., Inc.
1776 East 170th St. • New York 60, N.Y.

UNIT AND SOUND testing equipment are among the wide variety of testing instruments in this Airserco Mfg. Co. display panel. Included are a "Start-O-Metic Analyzer," load testers, sound tracer, and refrigeration unit analyzer.



LARGEST CAPACITY SELF-CONTAINED ice flaking machine, producing 4,500 lbs. per day, is shown by C. P. Crobaugh, sales manager for Scotsman, Queen Products Div., King-Seeley Corp. (l.) to J. P. Boone of Bethesda, Md.

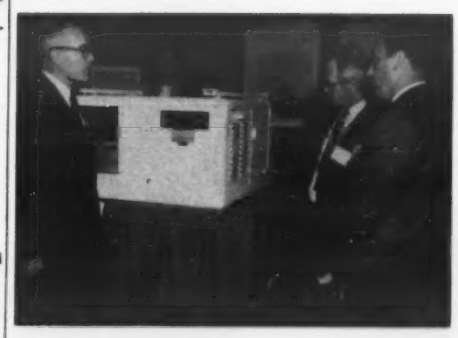
You can't "jail" rust and scale . . .

But you can stop them with

MICROMET® PLATES

Easy-to-use, low in cost, one charge of Micromet Plates will protect most systems against scale and corrosion for six months. Recommended by leading equipment manufacturers. Get Micromet Plates today from your Refrigeration Wholesaler.

CALGON COMPANY
DIVISION OF HAGAN CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PA.
In Canada: Hagan Corporation (Canada) Limited, Toronto



RECOLD CR cooling unit for meat cutting rooms featuring centrifugal blower and air filter is shown by Sherman Singer, manager of Recold Corp.'s air conditioning products (r.), to W. H. Cullen of New York City (l.) and H. C. Clapp of the State University of New York (second from right). H. L. Quinn, Recold eastern manager is in background.

DOES YOUR APPLIANCE CARRY THIS SEAL of QUALITY?

The motor used in this equipment is protected against overloads, low voltage, over-voltage with a Mighty Mite Thermal Protector

MECHANICAL INDUSTRIES PRODUCTION CO.
223 Ash Street • Akron, Ohio

PATENTS, a regular feature of the NEWS, have been omitted to allow extended picture coverage of the recent Refrigeration and Air Conditioning Exposition in Atlantic City. Patents will be resumed next week.

BEVERAGE MERCHANDISER

3 self-contained models, 4 remote models. Sizes from 5-12 ft. Available in 2-3-4 door models.

DEALERS
Write or Phone For Information

National Market Equipment Co.
25851 Dequindre, Box 188
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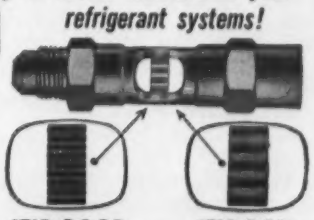
(Telephone: Lincoln 8-0900)

Simplest, most economical way to detect moisture in your refrigerant systems!

Positive Sealing LIQUID EYE® INDICATOR featuring the built-in MOISTURE-REACTOR



No more guesswork about the condition of your R-12 and R-22 refrigerant systems. No installation problems either.

Now you can get both in the same unit
...LOWEST COST MOISTURE REACTOR PROTECTION PLUS ALL THE PROVED LIQUID EYE FEATURES!

CONTACT YOUR WHOLESALER TODAY

IT'S GOOD

The MOISTURE-REACTOR is composed of alternate, permanent and changing (Reactor) color bars. When all the bars appear the same color (green)—it's good—there's no moisture in system.

IT'S BAD

If moisture enters the system, every other color bar changes from green to yellow—then it's bad—the dehydrator should be replaced. When the system is moisture-free again, the Reactor color bars will change back to their original solid green color.

Allin ALLIN MANUFACTURING CO.
410 NORTH HERMITAGE AVE • CHICAGO 22, ILLINOIS

OVER 1,000,000 LIQUID EYES SOLD TO DATE!

1960 Admiral Room Air Conditioner

Admiral Line--

(Concluded from Page 1, Col. 2)

No tools are needed for installing the Ruler room air conditioners which have permanent molding across the top and bottom and an attached accordion-type "Flex - O - Mount" that enables the air conditioner to be placed in windows up to 35 in. wide, the company said.

"This model may be moved to other rooms and installed without air leaks instantaneously," Admiral claims.

The official cooling capacity of each of the 11 models is indicated on the nameplate in B.t.u., in accordance with a new industry standard. All models have permanent aluminum mesh filters, a thermostat, and new 360° adjustable air flow louvers.

Slimest air conditioner in the new Admiral line is the Ruler series which is less than 12 in. deep and only 13 5/16 in. high.

The 7.5 amperes, 110-volt model is officially rated at 6,600 B.t.u. It can remove 1.8 pts. of moisture from the air per hour, the company said. Ten temperature settings are provided on the thermostat.

The Ruler series, as well as the larger "Coronet" models, can be installed through a wall by using a metal sleeve. The former is available in 12 amperes, 230 volt and "Imperial" models with two-speed fans and six different weather settings.

'Coronet' Series Includes Heat Pump

The more powerful Coronet series is rated at 9,500 B.t.u. and operates on 230-volt current. These units can remove 2.3 pts. of moisture from the air per hour, according to Admiral. One model has a reverse cycle heat pump for heating a room on chilly days.

Admiral's Scepter series is offered with 1 and 1½-hp. compressors. Rated at 10,800 and 13,000 B.t.u., these air conditioners "can effectively cool two rooms," the company said. "They feature four 360° air flow louvers to pinpoint the cool air where it is desired."

The Regency series has 2-hp. compressors and an official rating of from 15,500 to 16,000 B.t.u., "capacity of cooling a small ranch type house." One model can be operated on either 208 or 230 volts, and features a three-speed fan.

Cabinets have acoustical insulation while the compressor and motor mountings have special sound-cushioning to assure quiet operation, it was stated.

Suggested list prices (excluding the excise tax which becomes effective Dec. 1) of the Ruler reportedly range from $229.95 to $259.95 and those of the Coronet series from $259.95 to $309.95. Scepter units are tagged at $289.95 and $319.95 and Regency units at $339.95 and $379.95.

Steel Outlook Brightens--

(Concluded from Page 1, Col. 5)

Carrier will pay the bank interest and service costs of such loans.

At Appliance Park, Louisville, Ky., officials of General Electric Co. indicated they would have to get a clearer picture on steel deliveries before they can plan to recall workers laid off due to steel shortages.

According to a spokesman, all of the departments at Appliance Park are in good shape with the exception of household refrigeration, where 2,200 workers had been laid off because of the shortage.

Steel shortages forced a temporary shutdown Nov. 13 of Coleman Co. factories at Wichita, Kan. and La Porte, Ind., but operations will be resumed on Nov. 30, the company announced.

At the Decatur (Ill.) Works of York Div., Borg-Warner Corp., Works Manager Warren R. Carter said sufficient steel inventories are available to continue normal operations until Jan. 1.

In Deerfield, Mich., Revco, Inc. laid off 200 workers for an indefinite period due to a shortage of steel. Unaffected were some 50 workers in the shipping and service departments.

Early this month, C. J. Gibson, Jr., president of Gibson Refrigerator Co., division of Hupp Corp., said steel supplies were ample to continue production of 1960 model Gibson air conditioners until the middle of January.

He added that if steel mills began operations soon, production of air conditioners would continue with no interruption.

Last week, Gibson said that although air conditioners were keeping up with the market, failure of steel to arrive in expected volume resulted in production cuts which have forced the company to allocate refrigerators to distributors temporarily.

The steel processing picture, he said, had not cleared enough to allow a guess as to December shipments.

Gibson also noted that the refrigerator line would close down for two weeks after Thanksgiving.

Cool County Clink?--

(Concluded from Page 1, Col. 2)

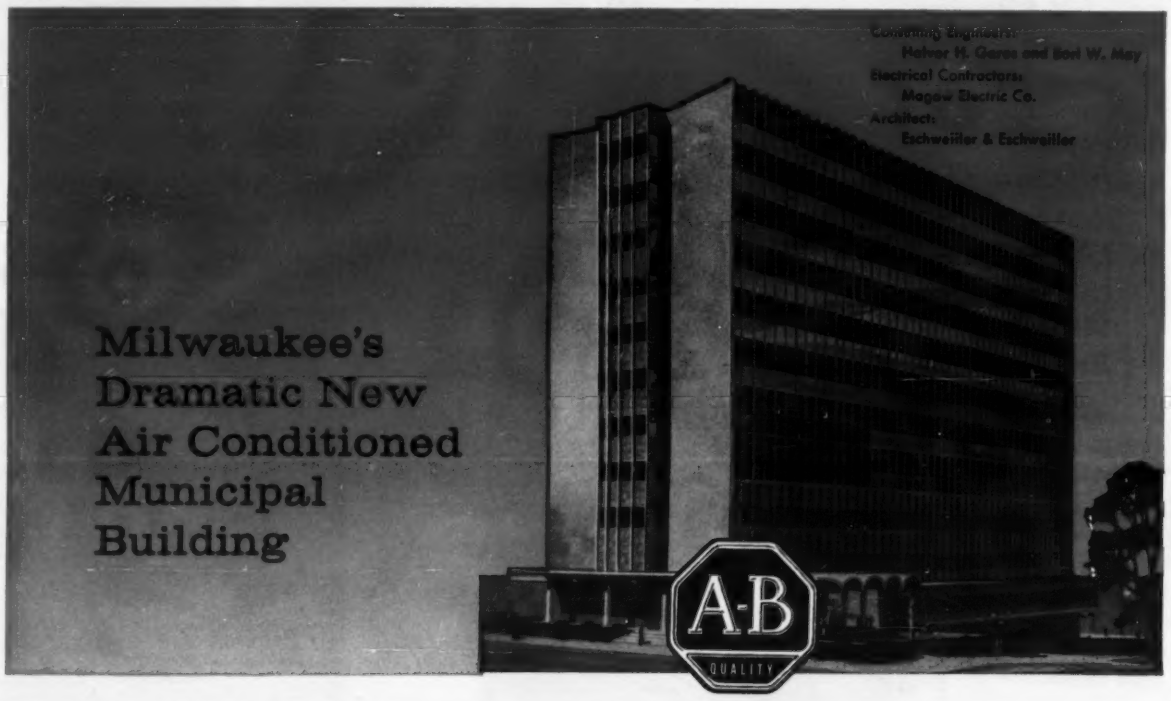
tion. Its aim is to head off costly designs.

Another advisory group, the Citizens Jail Committee, has recommended in a report to the supervisors that full refrigerated-type air conditioning for both administrative personnel and inmates be installed in the new facility.

At the CACCC meeting, opinion was divided among the four members present. Although no official conclusion was stated, consensus seemed to be that refrigerated cooling should be provided for administrative and kitchen personnel but not for inmates.

The committee got from County Manager L. S. Hollinger and his executive aide, Dave Factor, a run-down on estimated costs of three types of air handling systems under consideration—a mechanical ventilating system, such a system convertible to a refrigerated air conditioning system, and a refrigerated-type system.

No decision was reached at the meeting, CACCC members agreeing that much further study would be required, according to reports.



...controls by **ALLEN-BRADLEY,** *of course*

Allen-Bradley quality motor control is a *natural* in the years-ahead planning that goes into a new building. Its simple ONE moving part solenoid design assures *millions* of trouble free operations. And the double break, silver alloy contacts never need service attention. Build with the future in mind—insist on Allen-Bradley—the motor control of *proven* and *consistent* reliability.

Main Allen-Bradley control panel—consists of Bulletin 798 control center alongside cabinets for compressor motor starters.

This Allen-Bradley Bulletin 798 control center contains the combination starters which are for motors on the auxiliary pumping equipment.

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